U.S. Army Corps of Engineers
Sacramento District

RECORD OF DECISION

Permit Application 200350493
Utah Department of Transportation Legacy Parkway
Salt Lake and Davis Counties, Utah

January 2006

Utah Regulatory Office
533 West 2600 South, Suite 150
Bountiful, UT 84010
(801) 295-8380

U.S. Army Corps of Engineers

RECORD OF DECISION

Permit Application 200350493
Legacy Parkway
Salt Lake and Davis Counties, Utah

Contents

DECISION

The U.S. Army Corps of Engineers (Corps) hereby approves the selection of Alternative E for the Legacy Parkway project as identified in the Legacy Parkway Final Supplemental Environmental Impact Statement/Reevaluation and Section 4(f), 6(f) Evaluation (Final Supplemental EIS) prepared for the Federal Highway Administration (FHWA) and the Corps, with the assistance of the Utah Department of Transportation (UDOT). Alternative E, referred to herein as the Selected Alternative, is summarized in the next subsection. It is described in detail in the Final Supplemental EIS.

This decision is based on an evaluation of the probable impacts (including cumulative impacts) of the described activity on the public interest, and application of the Clean Water Act Section 404(b)(1) guidelines promulgated by the Administrator, Environmental Protection Agency (40 CFR Part 230). The decision reflects the national concern to both protect and utilize important resources. The benefits that may be reasonably expected from the described activity have been balanced against its reasonably foreseeable detriments.

The Selected Alternative will fill 103 acres of wetlands in order to construct a 312-ft wide, four-lane, limited-access, divided highway and trail extending 14 miles from I-215 in Salt Lake City, Utah, north to I-15 and U.S. Highway 89 (US-89) in Farmington, Utah. Overpasses will be constructed at Center Street in North Salt Lake; 1250 West in Centerville; and Glovers Lane, State Street, and Park Lane in Farmington. In addition to the southern and northern terminus interchanges, interchanges will be constructed at 500 South in Woods Cross and Parrish Lane in Centerville. At the southern terminus, I-215 will be widened between 2100 North and a new (Legacy Parkway) interchange about 0.3 mi west of the I-215/Redwood Road interchange in North Salt Lake. At the northern terminus, the I-15/US-89 interchange will be reconstructed to provide connections between US-89, I-15, and the new Legacy Parkway. Three frontage roads will also be provided on the alignment to maintain existing access, and a multi-use trail for pedestrians, bicyclists, and equestrians will parallel the highway along its entire length. The trail will connect to the Jordan River Trail at the southern end, the Davis County Trail system at the northern end, and community trails along intermediate points.

The Selected Alternative also includes reconstruction of Burke Lane at the northern terminus, which was completed in 2005. Burke Lane has been reconstructed as Park Lane and extended across I-15 and the Union Pacific Railroad (UPRR) to connect with State Street (Clark Lane) at 1100 West in Farmington.

Final Supplemental EIS for Legacy Parkway

The Final Supplemental EIS incorporates input from the public and interested agencies on the nature and extent of the proposed action, proposed action alternatives, potential impacts resulting from implementation of the proposed action, and methodology used to evaluate and assess the impacts. The following specific opportunities for public input and review were provided: a public hearing held on January 7, 2005; an open house public meeting and four focus group meetings held earlier during the formal scoping period; five community planning information committee (CPIC) meetings focused on collecting and sharing information critical to completing specific technical analyses; several small group meetings requested by specific individuals, organizations, and other interested parties; a 24-hour telephone hotline; and the public comment period on the Draft Supplemental EIS and Final Supplemental EIS. Prior to the public hearing, a

public notice summarizing impacts of UDOT's proposal was sent to approximately 4,000 addressees soliciting comments. Comments on the Draft Supplemental EIS received from federal, state, and local agencies, nongovernmental organizations, and the public were considered in preparing the Final Supplemental EIS, as stated in Volume 2 of the Final Supplemental EIS.

Changes since Publication of the Draft Supplemental EIS

The Foreword/Introduction to the Final Supplemental EIS summarizes the substantive revisions that were made after publication of the Draft Supplemental EIS. Two changes, however, were not described in the Final Supplemental EIS due to the timing of its publication. Specifically, UDOT submitted an application for a CWA Section 404 permit modification to the Corps in November 2004, requesting authorization to fill 99 acres of wetlands for construction of Alternative E. After the Final Supplemental EIS was published, UDOT indicated that there was an error made in calculating wetland fill and requested that the application for permit modification be changed to reflect the fill of 103 ac of wetlands. Therefore, the permit application for the Selected Alternative now reflects 103 ac of direct wetland impacts. Based on the Corps review of UDOT's mapping and methodology, the Corps believes that this request is reasonable, and that it will not change the impact analyses disclosed in the Final Supplemental EIS. Project drawings submitted with the application are correct and do not require modification.

The second change is that a Settlement Agreement was executed on November 14, 2005, between UDOT and former plaintiffs and other interested parties. The Settlement Agreement outlines certain undertakings by UDOT, many of which will reduce project impacts, and provides that the former plaintiffs and other interested parties will not bring suit against the recently completed Supplemental EIS or against this ROD and CWA Section 404 permit action. The terms of the Settlement Agreement are described below in Section F, Settlement Agreement. To best meet the terms of this agreement and to further avoid wetlands, UDOT will meander the 312-foot footprint within the 328-foot previously acquired right-of-way.

A. ANALYSIS OF ISSUES PRESENTED BY TENTH CIRCUIT COURT RULING

The Final Supplemental EIS contains detailed information designed to address issues identified in the decision of the U.S. Court of Appeals for the Tenth Circuit (Utahns for Better Transportation et al. v. U.S. Department of Transportation et al. [305 F.3d 1152 10th Cir.2002]), hereinafter referred to as the court ruling. The appellate court determined that the following five specific issues needed further review.

- Practicability of a narrower right-of-way.
- Elimination of the Denver & Rio Grande (D&RG) regional corridor as a feasible alternative based on cost and substantial impacts on existing development.
- Integration of Legacy Parkway with expansion of mass transit.
- Alternative sequencing of components of the Shared Solution (i.e., expansion of mass transit, I-15 reconstruction, and Legacy Parkway).
- Impacts on wildlife.

To complete this Court-mandated review, as well as the environmental review in the Final Supplemental EIS and the CWA Section 404 permit decision, the Corps is required to ensure that the proposed action does not significantly degrade aquatic resources, complies with the applicable requirements of other statutes, and is not contrary to the public interest. Additionally, the Corps cannot issue a CWA Section 404 permit for a project if there is a practicable alternative to the proposal that has less adverse impacts on the aquatic ecosystem (commonly called the "least environmentally damaging practicable alternative" or "LEDPA"), as long as that alternative does not have other significant adverse environmental consequences. Practicable is defined in the CWA Section 404(b)(1) Guidelines as "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes."

As in the Record of Decision for the June 2000 FEIS, the Corps determined that logistical considerations include the specific socioeconomic impacts associated with implementing an alternative, including not only direct construction impacts such as the relocation of homes or businesses, but also resulting neighborhood changes associated with the alternative. This definition of logistics, for determining the practicability of alternatives, is consistent with the reasoning in the Tenth Circuit Court of Appeals decision in which the appellate court made the following statement.

> Practicable is defined as "available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes" (40 CFR Section 230.3[q]). In the ROD, the Corps found the D&RG Alignment to be infeasible because of its high cost and high impact on existing development (I Aplee. App. At 44-45). Merriam-Webster's Collegiate Dictionary defines infeasible as impracticable (Id. At 618 [9th ed. 1991]). Therefore, the Appellants are incorrect in saying that the Federal Agencies applied the wrong legal standard in rejecting the D&RG alternative. The Appellants further argue that even if the impracticable test was applied, it was not met (Aplt. Br. At 23). We can set aside the Corps action only if we find that the Corps abused its discretion, or acted arbitrarily, capriciously, or contrary to law (5 USC Section 706[2][A]). Impact on existing development would appear to fall within both the cost and logistics portion of the practicable definition. (Utahns for Better Transportation et al. v. U.S Department of Transportation et al. [305 F.3d 1152 10th Cir.2002]).

The following provides a summary of how the Final Supplemental EIS analyzed and addressed the issues raised by the Tenth Circuit Court ruling and a determination of the Corps' findings regarding the practicability of identified alternatives, as applicable.

1. Narrower Right-of-Way

The appellate court remanded in part the June 2000 Final EIS for further review to consider the practicability of a narrower right-of-way than that considered in the Final EIS. The technical analysis presented in the Legacy Parkway technical memorandum Right-of-Way Issues (HDR Engineering 2005), described that safety, engineering, and maintenance standards would not allow for a reduction in the width of the clear zones, travel lanes, or sideslopes associated with the proposed facility. The width of the sideslopes could vary depending on the height of fill of the travel lanes. However, based on revised UDOT design standards for open median widths, the

median width of the proposed facility could be reduced by 16 feet (ft), resulting in a reduction in the total right-of-way width from 328 ft to 312 ft. This narrower median width could be used without substantially compromising the safety of the facility or the water quality function of the vegetated median.

The technical memorandum also evaluated the potential to replace the open median (vegetated filter strip) with a median barrier. Although it was concluded that this was a possibility, the technical memorandum found that replacement of the open median with a median barrier would reduce the overall safety of the facility and would result in comparable impacts on wetlands because it would be necessary to implement alternative water quality treatment methods to replace those associated with the open median. Specifically, to provide the level of water quality treatment necessary to meet state water quality standards, detention basins with oil/gas skimmers, retention basins, and/or sediment traps/basins would need to be constructed in close proximity to the alternative alignment. These alternative water quality control facilities would require an estimated 18 acres of land in the vicinity of the proposed facility and would affect approximately 2 acres of wetlands. This acreage and associated wetland impact is comparable to that associated with a 50-foot open median. In addition, citing or configuring alternative water quality facilities to avoid wetlands would not be possible because of the high groundwater table and the flat nature of the project area. The acreage needed to implement these alternative water quality treatment methods, therefore, did not offer additional wetland savings.

The proposed facility also includes a 17- to 20-ft wide trail and a 36- to 84-ft wide buffer area. The widths of these components are variable and were determined by UDOT. The width of the proposed trail is based on the width necessary to accommodate separate horse and pedestrian/bicycle paths. The variable width of the buffer area is based on the need to provide a safe separation between the roadway traffic and trail users, and to accommodate two earthen berms. Two separate berms (totaling 3.2 miles) would be located along the east side of the highway between 500 South and Porter Lane in West Bountiful, and along the west side of the highway between Glovers Lane and State Street in Farmington (see Figure 2.1-3 in the Final Supplemental EIS for the berm locations associated with the Selected Alternative). These berms will provide a visual and acoustic buffer to trail users and existing and future residential development in West Bountiful and Farmington and were incorporated into the project description, in conjunction with a parkway type setting, to compensate these cities for impacts on their communities. From UDOT's perspective, based on extensive meetings with communities and public officials representing the communities, the project would be politically infeasible without the berms.

Each berm would be 20-ft high (i.e., the height necessary to elevate the berm 9-ft above the travel lanes and to visually screen the roadway from a person outside the roadway corridor) and would be suitable for landscaping. In areas where a berm is proposed, the buffer width would be 81–84 ft.

In areas where wetlands, residences, or Section 4(f) properties could be avoided by further reducing the width of the roadway footprint within the right-of-way, and where engineering and design constraints allow, the buffer area will be reduced to 36-ft. Although the use of a 36-ft buffer lessens the advantages of the buffer area (e.g., safe separation between the roadway facility and trail, contribution to a "parkway-type" feel), impacts on sensitive resources would be minimized. In all other areas, the buffer would be 81-ft wide. In total, the berm/buffer area would impact 2 acres of wetlands.

Inclusion of the components as described above would result in a narrower, 312-ft right-of-way width, except in areas with sensitive resources, where the width would be reduced to 264 ft. All the build alternatives evaluated in detail in the Final Supplemental EIS were modified to reflect this narrower right-of-way width.

Based on these considerations, the Corps concurs that the width of the clear zones, travel lanes, and sideslopes cannot be further reduced due to safety, engineering, and maintenance standards. A 17- to 20-ft wide trail is reasonable and will provide the width necessary to separate equestrian users from pedestrian/bicycle users. In addition, the Corps believes that the minimum buffer width of 36 ft, where specified, is reasonable.

However, the necessity to use an 81- to 84-ft buffer width to construct a berm is questionable. The Corps believes that an alternate method of providing an acoustic and visual buffer could be acceptable to the Cities of Farmington and West Bountiful if the buffer-type were made to be aesthetically pleasing and an asset to the community. Replacing the berm with an alternate design could avoid up to 2 acres of wetlands and would be a less damaging alternative. Therefore, in order for the project to comply with 404(b)(1) guidelines, the Corps will require UDOT to replace the landscaped berm with an alternate design or smaller berm using a smaller footprint to reduce wetland impacts.

It should be noted that in September 2005, at the request of the federal lead agencies, UDOT prepared a memorandum (Shingleton pers. comm.) describing the standards or references that were used to determine the widths of the components of the frontage roads associated with the Final Supplemental EIS build alternatives. Just as the Corps reviewed components of the Legacy Parkway mainline to evaluate whether a narrower cross section could be developed to reduce impacts on wetlands and other sensitive resources, the Corps also reviewed the design of the frontage roads to look for opportunities to reduce widths. The Corps agrees with the conclusion that 66 ft was the minimum width for the frontage roads that would reflect state and federal design standards. This width would be in addition to the 312-ft right-of-way width attributed to the build alternative alignments; however, all evaluations conducted for the Final EIS and the Final Supplemental EIS considered and disclosed the environmental impacts that would be associated with construction of the frontage roads.

2. Denver & Rio Grande Railroad Regional Corridor Alternatives

The appellate court also remanded in part the June 2000 Final EIS for further review of elimination of the D&RG regional corridor as a feasible alternative on the basis of high costs and substantial impacts on existing development. Five specific alignment options within the D&RG regional corridor were evaluated to determine whether a reasonable alternative within the D&RG regional corridor could be developed. As part of this evaluation, planning-level cost estimates for the D&RG regional corridor and all the other regional corridors considered were updated. In addition, more detailed cost estimates for the specific alignments within the D&RG regional corridor were developed. FHWA and the Corps reviewed both sets of cost estimates. The agencies also quantified impacts related to residential, commercial, and industrial property displacements for each D&RG alignment alternative, and analyzed impacts on wetlands and communities.

The results of the more detailed reevaluation of this regional corridor, which are documented in the Legacy Parkway technical memorandum Denver & Rio Grande Corridor Evaluation (HDR Engineering 2004a), reaffirm the conclusion of the Final EIS. The results were independently reviewed for accuracy and reasonableness by the Corps and FHWA. Specifically, an alternative in the D&RG corridor is not reasonable or practicable, as that term is defined above, for the following reasons.

- The D&RG alignments, using a variable right-of-way width that is only as wide as necessary, would require substantial relocations, compared to the Selected Alternative. As summarized in Chapter 2 of the Final Supplemental EIS, the D&RG alignments would require between 149 and 279 business and residential relocations, compared to the 18 business and residential relocations that would be required under the Selected Alternative. The lead agencies determined that the substantial relocations and resultant community impacts required by the D&RG alignments would be unreasonable compared to the Selected Alternative, and logistically impracticable.
- The D&RG alignments would have considerably more impact on community cohesion than the Selected Alternative. The evaluation of impact on community cohesion was based on input received from local jurisdictions, as well as an assessment of the physical barriers (i.e., number of bridges, cul-de-sacs, cut-off-roads, noise walls, and retaining walls) that would be created by a D&RG alignment alternative; the percentage of the population in a community that would be segmented by a transportation facility; and the public school service areas and church congregations that would be divided by a D&RG alignment alternative. These impacts are summarized in Chapter 2.2 of the Final Supplemental EIS and in the Legacy Parkway technical memorandum Denver & Rio Grande Corridor Evaluation (HDR Engineering 2004a).
- The D&RG alignments would have far greater noise and visual impacts than the Selected Alternative. Between 89 and 129 residential properties are located adjacent to the D&RG conceptual alignments compared to 7 residential properties adjacent to the Selected Alternative alignment (see Table 2.2-5 in the Final Supplemental EIS). A higher number of residential properties adjacent to an alignment indicates that a greater number of people would be directly affected by noise and visual impacts. The proximity of residential properties to the D&RG alignments would also require placement of between 10,300 and 16,100 ft of retaining walls, compared to 1,600 ft for the Selected Alternative. A greater distance of retaining wall indicates a longer portion of the alignment that would be raised and subject to visual impacts.
- The D&RG alignments would eliminate a large portion of the local tax base for the City of North Salt Lake by displacing or altering access routes to businesses.
- The D&RG alignments would cost between $134 and $256 million more than the Selected Alternative, depending on the location of the alignment. The Corps considers cost in determining the practicability of a project alternative.

3. Integration of Legacy Parkway with Expansion of Mass Transit

The appellate court also addressed the integration of Legacy Parkway and mass transit as a possible reasonable alternative. In response to the court's holding, the lead agencies evaluated ways to integrate Legacy Parkway with expansion of mass transit; this evaluation is documented in Technical Memorandum on Integration of Highways and Transit in the North Corridor (Fehr & Peers 2004). The technical memorandum discusses a fully integrated "robust transit scenario" (referred to as maximum future transit) as part of this analysis and used maximum future transit as the basis of the transit assumptions in evaluating all the build alternatives in the Final Supplemental EIS; the No-Build Alternative incorporated only those mass transit improvements included in the Wasatch Front Urban Area Long Range Transportation Plan Update, 2004–2030 (WFRC long range plan) (Wasatch Front Regional Council 2003). For evaluating the need for any of the other alternatives recommended, maximum future transit was included as part of the future baseline assumptions. Maximum future transit includes physical and program-level transit improvements, such as bus rapid transit, commuter rail, and coordinated arrival times at stations for various services and modes; substantial increases in downtown parking fares; a 50 percent reduction in transit fares; and changes in local development patterns to more transit-supportive land use patterns.

The results of the travel demand model analysis conducted as part of the reevaluation show that, even assuming that all of these transit-supportive projects, programs, and land use changes were in place in the future, an alternate highway route through the North Corridor would still be needed to meet the transportation demand in 2020 and beyond. Local, state, and federal transportation officials embrace many of the concepts and improvements included in maximum future transit (as developed for the integration analysis), many of which are also included in current and future plans. However, this integration analysis concludes, and local, state, and federal officials agree, that maximum future transit alone would not meet the project purpose and need.

The integration analysis also analyzed the opportunities to physically integrate the construction of the Legacy Parkway project with construction of mass transit improvements. As a result, several opportunities for integrating the construction of Legacy Parkway with expansion of mass transit have been implemented as part of the construction work completed to date or are planned for implementation in the future. Since publication of the Final EIS, the UTA commuter rail project has advanced to the point that more specific information is available about the commuter rail plans, including possible station locations, and it is now feasible to coordinate planning efforts between the two projects.

4. Sequencing of the Shared Solution

The appellate court also remanded in part the sequencing, or order, of construction of the various components of the Shared Solution (i.e., expansion of mass transit, I-15 reconstruction, and Legacy Parkway). The sequencing issues relate to the reasonableness of either constructing Legacy Parkway after the Maximum Future Transit Alternative or constructing Legacy Parkway after both the Maximum Future Transit Alternative and I-15 reconstruction. The reasonableness questions addressed were (1) determine whether substantial expansion of mass transit could alleviate the immediacy of the need for Legacy Parkway and, (2) determine whether substantial expansion of mass transit could provide sufficient traffic congestion relief during the reconstruction of I-15, such that Legacy Parkway could be delayed further. UDOT and the lead

agencies have analyzed these questions; the results are documented in the Legacy Parkway technical memorandum Sequencing of the North Corridor Shared Solution (HDR Engineering 2004b).

Four construction sequencing scenarios were developed, analyzed, and summarized in the Final Supplemental EIS, to examine and disclose the impacts of constructing each of the three components of the Shared Solution before, or concurrently with, another of the components of the Shared Solution. This analysis resulted in the following conclusions.

- Constructing maximum future transit in the North Corridor or reconstructing I-15 prior to building Legacy Parkway would delay the direct impacts on wetlands that would result from construction of Legacy Parkway for 3 or 7 years, respectively.
- Maximum future transit does not alleviate the immediacy of need for Legacy Parkway or I-15 reconstruction. Even with maximum future transit fully implemented by 2008 (and assuming transit-oriented development land use changes are in place in 2008), delaying construction of Legacy Parkway would cause substantial costs to the traveling public from 2005 to 2015. Delaying Legacy Parkway further so that maximum future transit provides the only corridor-length alternative to I-15 during its reconstruction would cause substantial costs to the traveling public during the I-15 reconstruction period, (i.e., 2008–2012)
- .Because of high costs to the traveling public, it is not reasonable to delay construction of Legacy Parkway or reconstruction of I-15 until maximum future transit is in place. Delaying Legacy Parkway construction beyond 2008 or I-15 reconstruction beyond its currently planned timeframe would result in unreasonable additional costs to the traveling public of between $48 million and $498 million from the combined loss of time, mobility, and additional energy costs in the morning and evening peak periods.
- Consistent with the June 2000 Final EIS findings, the Final Supplemental EIS found that it is not reasonable to reconstruct I-15 prior to building Legacy Parkway. The results indicate that I-15 would experience extreme congestion without Legacy Parkway to absorb the displaced traffic during I-15 reconstruction. The scenarios that sequenced Legacy Parkway construction prior to I-15 reconstruction provide faster travel times on balance over the 10-year construction period, resulting in $498 million in lower costs to the traveling public.

The conclusions regarding sequencing were based on comparison of the impacts of the full range of sequencing combinations of the Shared Solution major components. Impacts were evaluated using a range of variables, including timing of direct impacts on wetlands, costs to the traveling public, travel speeds and travel times for users of each of the Shared Solution components, air quality, construction costs, and operating and maintenance costs.

5. Wildlife Impacts

The appellate court's remand also stated that the lead agencies failed to adequately consider impacts on wildlife in the June 2000 Final EIS by limiting the impact evaluation to habitat within 1,000 ft of the project right-of-way and failing to consider impacts on migratory bird populations that use the larger Great Salt Lake Ecosystem (GSLE). In response to the court's holding, the federal lead agencies conducted a reanalysis of project impacts on wildlife. The reanalysis expanded the analysis of impacts on wildlife in the Final EIS by considering direct, indirect, and cumulative impacts on wildlife, particularly migratory birds, within and beyond 1,000 ft of the project study area in the GSLE. Project impacts on wildlife were analyzed using a three-level

study area: the project study area (for direct and indirect effects), a larger regional study area (for indirect and cumulative effects), and the entire GSLE (for context and cumulative effects analysis). The following impacts were evaluated: direct habitat loss, changes in habitat loss when combined with the natural effects of lake level change, habitat fragmentation, changes in habitat quality, habitat modification, wildlife highway mortality, human disturbance, effects on special-status wildlife, and cumulative effects.

The conclusions of the wildlife impact analysis are documented in Legacy Parkway Wildlife Impacts Analysis Technical Memorandum (Jones & Stokes 2005) and Section 4.13, Wildlife, of the Final Supplemental EIS. In summary, the analysis concluded that the Selected Alternative will result in adverse direct and indirect effects on wildlife and will contribute to cumulative effects on local wildlife populations, including migratory birds. These adverse effects will contribute to declines in the local density of affected species. In addition, traffic noise could potentially affect the behavior and reproductive capacity of various migratory bird species within the project study area and vicinity. Furthermore, the technical memorandum concluded that these impacts alone will not likely affect the long-term viability of any wildlife species in the GSLE. The Corps concurs with the conclusions of the Wildlife Impacts Technical Memorandum based on the following.

- Creation and maintenance of the Legacy Nature Preserve (Preserve) (see Section G, Mitigation Measures, below) will result in preservation of 2,098 acres of important wildlife habitat in perpetuity in an area that would otherwise likely be lost to development. This acreage reflects the addition of 317 ac of land that were added during the preparation of the FEIS to address impacts on wildlife, and 530 ac were added after publication of the FEIS. Establishment of the Preserve will mitigate some of the population declines that would likely occur without it and will create a distance and noise buffer of undeveloped habitat for some areas west of the Selected Alternative.
- The area of wildlife habitat affected by direct habitat loss represents a small percentage of the total amount of wildlife habitat available throughout the regional study area. Wildlife habitats are available in the Jordan River Delta and the Farmington Bay Wildlife Management Area, as well as in the larger Great Salt Lake ecosystem, and wildlife habitat in the project study area represents a very small percentage of habitat available in the region.
- The project study area does not support any ecologically unique habitats that will not still be available west of the Selected Alternative. The existing habitat in the project study is already highly fragmented by a diversity of human activities. As such, habitat fragmentation will not reduce the diversity of habitat types in the project study area.
- The project study area does not support high abundances of many of the waterbird species that are common in the GSLE, although it is recognized that the number of waterbirds using the project study area vary with season, year, and lake level.
- UDOT will fund a study to determine the effects of highway noise on bird populations in the project study area and comparable habitats. This mitigation is extremely valuable because there are currently no detailed studies that show how highway noise affects bird population dynamics.

Impacts on wildlife are further summarized below in Section D, Summary Major Environmental Impacts.

B. ALTERNATIVES CONSIDERED

1. Summary of Alternative Screening Process

This Record of Decision is based on consideration of all the alternatives described in Chapter 3, Alternatives, of the Final Supplemental EIS, and the associated administrative record. The following list describes the scope of alternatives considered in the Final Supplemental EIS.

- Alternatives considered in the June 2000 Final EIS. These comprise alternatives that had been screened out from detailed study and consideration in the Final EIS, the Final EIS No-Build Alternative, and the four proposed build alternatives described in the Final EIS (i.e., Alternatives A, B, C, and D [Final EIS Preferred Alternative])
- Additional alternatives evaluated in the Supplemental EIS process. These comprise alternatives that were eliminated from detailed study, as well as four modified build alternatives evaluated in detail in the Supplemental EIS (i.e., Alternatives A, B, C, and E).
- Alternative ways of implementing Legacy Parkway. These comprise using a narrower right-of-way width, integrating the construction of the highway with mass transit improvements, alternative construction sequences for Legacy Parkway with the other Shared Solution components, and alternatives without the trail component.

The Final Supplemental EIS explains the criteria used to determine which of the alternatives were carried forward for detailed analysis. Initially, project alternatives were evaluated on the basis of their ability to meet the project purpose and need. As described in Chapter 1, Purpose and Need, of the Final Supplemental EIS, the primary purpose of the Legacy Parkway project is to provide capacity to help relieve existing and projected travel demand in the North Corridor through 2020. The secondary purpose is to provide an alternate north-south route through the North Corridor. The lead agencies did not screen out any of the alternatives solely on the basis of their inability to meet the secondary purpose of providing an alternate route.

For alternatives that met the purpose and need criteria, the Corps and FHWA also considered other factors when evaluating whether an alternative was practicable and reasonable to carry forward for detailed analysis in the Final Supplemental EIS. These evaluation criteria included environmental factors such as impacts related to wetlands, farmland, hazardous waste sites, and Section 4(f)/6(f) resources; socioeconomic factors such as utility, business, and residential relocations, as well as community impacts; and cost. This approach was consistent with the evaluation criteria applied as part of the evaluation of alternatives presented in the June 2000 Final EIS.

The following provides a summary of the alternatives screening process completed for the Final Supplemental EIS.

2. Alternatives Screening Process for Final Supplemental EIS

As described in the Final EIS Record of Decision, all reasonable "non-highway" alternatives (arterial system improvements, operational and demand management strategies [e.g., intelligent transportation solutions, transportation systems management, and transportation demand management], and maximum reasonable future transit) were initially analyzed on the basis of operational features, constructability, safety, capacity, cost and demographic characteristics. The analysis in the Final EIS determined that none of the non-highway alternatives provided enough capacity alone to meet the anticipated transportation demand in 2020. The updated travel

demand analysis conducted for the Final Supplemental EIS confirmed that implementation of a stand-alone non-highway alternative would not meet the purpose and need of the proposed action.

The Final EIS alternatives analysis also considered widening I-15 in the North Corridor from its current eight-lane configuration to meet the remaining demand not met by the non-highway alternatives. A ten-lane I-15 alternative, the widest reasonable configuration, was combined with the non-highway alternative to determine how these options together would accommodate anticipated capacity needs in the North Corridor. The Final EIS evaluation concluded that this combination would meet only 74 percent of the total anticipated demand in 2020 and that, therefore, there was a need for an additional high-capacity highway, such as Legacy Parkway, in the North Corridor. This need for a multi-component "Shared Solution" was also confirmed in the Final Supplemental EIS alternatives analysis process.

The initial screening process for a new highway alignment presented in the Final EIS considered five regional corridor alignments for Legacy Parkway: Antelope Island, Trans-Bay, Farmington Bay, Railroad (D&RG and UPRR), and Great Salt Lake. The alternatives screening process presented in the Final EIS determined that, of these five regional corridor alignments, a highway alternative within the Great Salt Lake regional corridor would result in less wetland and/or land use impacts than the other regional corridor alignments, and would cost less. Accordingly, five alternatives within the Great Salt Lake regional corridor were carried forward for detailed study in the Final EIS: a No-Build Alternative and four build alternatives (Alternatives A, B, and C, and D [Final EIS Preferred Alternative]). All the build alternatives analyzed in the Final EIS included a trail system for pedestrian, bicyclist, and equestrian use.

In response to the court ruling, and as a result of the reevaluation process, cost estimates for all of the regional corridor alignments were revised and updated, and environmental impacts associated with alignments in the D&RG regional corridor were evaluated. The revised regional corridor cost estimates, which are presented in Chapter 3 of the Final Supplemental EIS, show that the costs associated with a highway in all the regional corridors have increased since June 2000, when the cost estimates were prepared for the Final EIS. However, of the five regional corridor alignments, the estimated cost of the Great Salt Lake corridor alignment remains the lowest at approximately $439 million, followed by the D&RG regional corridor alignment, which was estimated at $589 million. Each of the revised regional cost estimates was independently verified by FHWA and the Corps.

Certain environmental impacts specific to the D&RG regional corridor were also reassessed to determine if potential impacts in that corridor would be substantially less than those associated with alignments in the Great Salt Lake corridor. The results of this more detailed reevaluation, which are summarized above in Section A, Analysis of Issues Presented by the Tenth Circuit Court Ruling, reaffirmed the conclusion from the Final EIS that a highway alignment alternative in the D&RG regional corridor is not reasonable or practicable due to displacement, community cohesion, and wetland impacts. As noted above, an alignment in the D&RG regional corridor was also estimated to cost approximately $150 million more than an alignment in the Great Salt Lake regional corridor.

Based on the results and conclusions derived from the analyses required by the court ruling and those associated with the reevaluation process, four modified build alternatives within the Great Salt Lake regional corridor, Alternatives A, B, C, and E, as well as a modified No-Build Alternative, were carried forward for detailed analysis in the Final Supplemental EIS. Two primary modifications were made to the build alternatives evaluated in the June 2000 Final EIS: (1) the right-of-way width was reduced from 328 ft to 312 ft, and (2) the project features were designed and implemented to allow better integration with mass transit. A detailed description of the no-build and build alternatives evaluated in the Final Supplemental EIS is provided in Section C, Description of Alternatives Evaluated in Detail in the Final Supplemental EIS.

3. Additional Alternatives Evaluated but Eliminated from Further Consideration

The Final Supplemental EIS also evaluated additional alternatives and reconsidered alternatives addressed in the Final EIS. As described above, the criteria used in the Final Supplemental EIS to evaluate alternatives that were considered but subsequently eliminated from detailed study included the ability of the alternative to meet project purpose and need as well as the consideration of environmental factors, including the following: impacts on wetlands; impacts on farmland; hazardous waste sites; use of Section 4(f)/6(f) resources; and socioeconomic factors including utility, business, and residential displacements, other community impacts, and cost.

The following alternatives were evaluated using the alternatives screening process summarized above but were subsequently eliminated from detailed study in the Final Supplemental EIS. A detailed discussion of these alternatives is presented in Chapter 3, Alternatives, of the Final Supplemental EIS.

- D&RG Railroad Corridor Alternative
- Parkway Facility Adjacent to Redwood Road Alternative
- Redwood Road Arterial Alternative / Boulevard Sub-Alternative
- Proposed UBET Alternative
- Maximum Future Transit Alternative (No Legacy Parkway)
- Ten-Lane I-15 with Reversible Lanes Alternative (No Legacy Parkway)
- I-15 Improvements beyond Ten Lanes Alternative (No Legacy Parkway)
- Legacy Parkway beyond Four Lanes Alternative

C. DESCRIPTION OF ALTERNATIVES EVALUATED IN DETAIL IN THE FINAL SUPPLEMENTAL EIS

The following provides a description of the alternatives evaluated in detail in the Final Supplemental EIS, as well as a summary of the major environmental impacts that would be associated with each alternative.

All the build alternatives described in this section would be located within a 312-ft right-of way that would include four 30-ft travel lanes (two northbound, two southbound); two 24-ft clear zones; a 50-ft median; a 17- to 20-ft multi-use trail; and a 36- to 84-ft berm/buffer area. This right-of-way width represents a reduction from the 328-ft right-of-way width evaluated in the Final EIS. The discussion of the narrower right-of-way above in Section A, Analysis of Issues Presented by Tenth Circuit Court Ruling, describes the approach taken to evaluate the necessity for and dimensions of each of the highway components that would be located with the Legacy Parkway right-of-way.

In addition, all the build alternatives evaluated in the Final Supplemental EIS reflect opportunities to integrate the construction of physical elements of the Legacy Parkway with planned mass transit improvements. This integration, which includes placing interchanges at locations with access to future planned commuter rail stations and lengthening structures to accommodate the physical integration of commuter rail with Legacy Parkway and I-15, will provide an efficient interface and service coordination of highway and transit travel.

1. No-Build Alternative

Consistent with the June 2000 Final EIS, the No-Build Alternative considered in the Final Supplemental EIS consists of the WFRC long range plan but without Legacy Parkway, without the Legacy North project, and without full reconstruction of I-15. The long range plan components included in the No-Build Alternative are commuter rail, widening Redwood Road from two to five lanes from south of I-215 to 500 South, enhanced bus service, and various local road improvements. The No-Build Alternative in the Final Supplemental EIS is different from the No-Build Alternative in the June 2000 Final EIS in that the WFRC long range plan has since been updated to include commuter rail and other capacity-enhancing projects that have been added to the WFRC long range plan. In contrast to the build alternatives, the No-Build Alternative does not include the maximum future transit scenario because some of the more aggressive elements of the robust transit concept are not included in the current WFRC long-range plan.

2. Build Alternatives

Alternative A. As described in the Final EIS Record of Decision, Alternative A is the easternmost alternative for Legacy Parkway. It shares the same alignment as Alternative E along its northern section through Centerville and Farmington. It would include overpass structures at Center Street and 900 North in North Salt Lake, 1250 West in Centerville, and Glovers Lane, State Street, and Park Lane in Farmington; two service interchanges at 500 south and Parrish Lane; two frontage roads; and a multiple use trail, landscaping, and visual and acoustic buffers (earthen berm at some locations between the highway and the trail). The major environmental impacts associated with Alternative A are summarized in below in Section D, Summary of Major Environmental Impacts.

Alternative B. Alternative B is the westernmost alternative for Legacy Parkway in North Salt Lake and Farmington and requires the greatest amount of right of way. It would include overpass structures at Center Street in North Salt Lake and Glovers Lane, State Street, and Park Lane in Farmington. It would also include two service interchanges at 500 South and Parrish Lane, a multiple use trail, landscaping, and visual and acoustic buffers. Alternative B would terminate in two locations: at the I-15/US-89 interchange in Farmington and at I-15 in Kaysville, with a split connection branching off at approximately Lund Lane in Farmington. The major environmental impacts associated with Alternative B are summarized below in Section D, Summary of Major Environmental Impacts.

Alternative C. Alternative C is the westernmost alternative for Legacy Parkway in Centerville and Woods Cross. It would include overpass structures at Center Street in North Salt Lake and Glovers Lane, State Street, and Park Lane in Farmington. Alternative C would also include two service interchanges at 500 South and Parrish Lane, a multiple use trail, landscaping, and visual and acoustic buffers. The major environmental impacts associated with Alternative C are summarized below in Section D, Summary of Major Environmental Impacts.

Selected Alternative (Alternative E). The Selected Alternative follows the same alignment as the Final EIS Preferred Alternative (Alternative D), but reflects a narrower right-of-way width. The southern terminus will be located at the I-215/2100 North interchange in Salt Lake City. From the southern terminus, the highway will proceed north, cross Center Street and 900 North in North Salt Lake, and continue to a point 0.3 mi west of the intersection of 500 South and Redwood Road in Woods Cross. From 500 South, it will proceed northeast for about 3.5 mi to Parrish Lane, where it will turn north, cross Parrish Lane, and parallel the eastern side of the D&RG railroad tracks for 0.6 mi. It will then cross 1250 West in Centerville and continue on a northeast path to the UPRR tracks. From Centerville to Farmington, the highway will parallel the UPRR and I-15 adjacent to the west of the power lines on the western side of the railroad, cross under Glovers Lane and State Street (Clark Lane), and terminate at the interchange of I-15 and US-89 at Park Lane in Farmington.

The Selected Alternative will include five overpass structures: at Center Street in North Salt Lake and 1250 West in Centerville, and at Glover Lane, State Street, and Park Lane in Farmington. It will also include two service interchanges at 500 South and Parrish Lane, three frontage roads, a multiple use trail, landscaping, and visual and acoustic buffers.

The Selected Alternative includes establishment of the 2,098-ac Preserve. The Preserve, which will be located west of the Selected Alternative alignment, was developed in collaboration with the U.S. Fish and Wildlife Service (USFWS), the Corps, U.S. Environmental Protection Agency (EPA), Utah Division of Wildlife Resources (UDWR), and citizen stakeholder groups to mitigate project impacts on wetland and wildlife. Properties associated with the Preserve would be acquired by the State in fee simple title and managed, by either UDOT or an acceptable third party or parties, in perpetuity according to a management plan coordinated with the resource agencies and other interests. The major environmental impacts associated with the Selected Alternative are summarized in Section D, Summary of Major Environmental Impacts.

D. SUMMARY OF MAJOR ENVIRONMENTAL IMPACTS

The purpose of the CWA Section 404(b)(1) guidelines is to restore and maintain the chemical, physical, and biological integrity of waters of the U.S. through the control of discharges of dredged and fill material. A discharge of dredged or fill material is not permitted if there is a practicable alternative to the proposed discharge that would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. The determination of the effects of a proposed discharge of dredged or fill material is based on an evaluation of the impacts of the proposed action on the physical/chemical, biological, and human-use characteristics of an aquatic ecosystem (40 CFR 230, Subparts C through F). The Corps has evaluated impacts to all resources areas required under both NEPA and the CWA Section 404(b)(1) Guidelines. The Corps has determined that impacts to wetlands and wildlife habitat (biological characteristics of the aquatic ecosystem) and certain human-use characteristics are factors most relevant to making a determination regarding LEDPA. Impacts on these resources are described in the following subsections.

1. Biological Characteristics

Wetlands

Table 1 below summarizes the direct and indirect impacts of the build alternatives on wetland resources in the study area. Direct impacts are impacts that would occur as a result of the following: ground disturbance, including earthwork (clearing, grading, excavation, and fill) to create the roadbed; the landscaped berm; and the trail; bridge and other structure construction; frontage roads, utility relocations; construction vehicle traffic; and staging and storage areas. The acreage of direct impacts on wetlands is based on the acreage of wetlands within the 312-ft right-of-way. As described under Narrower Right-of-Way above in Section A, Analysis of Issues Presented by Tenth Circuit Court Ruling, design flexibility, or the opportunity for the designer to modify facility components consistent with design standards, would result in a reduction of direct impacts on wetlands under each build alternative (8 ac under Alternative A; 10 ac under Alternative E; and a similar amount under Alternatives B and C).

Indirect impacts are impacts on wetland resources that occur later in time (after project construction) and impacts that could affect the function of wetlands located outside the project footprint. The general level of wetland functions that would be indirectly lost because of project construction was estimated using a wetland functional assessment model for each build alternative, and is shown in Table 1.

Table 1 Direct and Indirect Impacts on Wetland Resources by Alternative

Impact Category	Alternative A	Alternative B	Alternative C	Alternative E (Selected Alternative)
Wetlands Affected, (acres)				
Filled*	107	182	145	113
Indirectly Affected (at 328-ft right-of-way)	539	1,011	907	575
Wetland Functions	Has the least effect on hydrology, water quality and habitat functions	Has the greatest effect on hydrology, water quality and habitat functions		

Note:

* Acreages shown represent the total acreage of wetlands within the right-of-way. However, the actual acreage of wetlands that would be directly filled is estimated to be about 8 to 10 ac less under Alternatives A and E. A similar reduction could be expected for Alternatives B and C due to design flexibility.

Impacts on wetland functions were quantified using wetlands functional assessment models developed for the Final EIS. These impacts were calculated as the change in wetland function multiplied by the area of affected wetlands. All wetland functions would be reduced to zero for wetlands or portions of wetlands that would be directly affected within the right-of-way. Impacts on wetland functions were calculated for each wetland category and each wetland cover type, as summarized in Section 4.12.3.3, *Impacts on Wetland Functions*, and Tables D-6 to D-10 in Appendix D of the Final Supplemental EIS.

Wildlife Habitat

The conclusions of the wildlife impact analysis are documented in *Legacy Parkway Wildlife Impacts Analysis Technical Memorandum* (Jones & Stokes 2005) and Section 4.13, Wildlife, of the Final Supplemental EIS. Tables 2 and 3 summarize the results of those analyses for each build alternative evaluated in detail in the Final Supplemental EIS. Impacts on wildlife habitat, outside of direct habitat loss, were similar under all build alternatives.

Table 2 Direct Habitat Loss

Alternative	Wetland/Riparian Habitats	Upland Habitats	Total Habitat Loss
Alternative A	115.1 ac	482.5 ac	597.6 ac
Alternative B	194.6 ac	647.1 ac	841.7 ac
Alternative C	156.5 ac	466.2 ac	622.7 ac
Selected Alternative	129.5 ac	458.3 ac	587.8 ac

Table 3 Summary of Impacts of the Legacy Parkway Project

Project Effect	Impacts under all Build Alternatives
Habitat Fragmentation	Legacy Parkway would transect the matrix of wildlife habitats in a study area where existing fragmentation is generally considered extensive.
Habitat Quality	Without mitigation measures, Legacy Parkway would cause increases in highway runoff contaminants; no significant air quality impacts on wildlife were identified.
Habitat Modification	No adverse impacts on hydrology were identified; highway landscaping could result in both beneficial and negative effects on wildlife.
Wildlife Mortality	Road mortality of individuals of some species is likely to increase.
Artificial Light Disturbance	Effects would likely be minimal. Any lighting along the trail will be directed downward.
Highway Noise Disturbance	Potential masking effects from highway noise are highly variable and species-specific; modeled distances range from less than 100 feet to nearly 3 miles. Noise-sensitive species adjacent to the highway would likely either move away from the disturbance area or remain and adapt to the extent they are able, with some reductions in local population densities and species diversity.
Human Disturbance	Increased access for humans and domestic pets could result in habitat degradation and wildlife mortality.
Special-Status Wildlife	Several protected species occur in the study area and could be affected by Legacy Parkway.
Cumulative Impacts	Legacy Parkway would contribute to large historic cumulative effects on wildlife habitat loss, but the effects of the proposed action alone would not likely affect the long-term viability of any wildlife species.

2. Human-Use Characteristics

The potential impacts on the human-use characteristics in the Legacy Parkway study area are summarized by alternative in Table 4.

Table 4 Summary of Potential Impacts on Human-Use Characteristics by Alternative

	Alternative			
Impact Category	A	B	C	E (Selected Alternative)
Total Property Displacements	116	78	22	28
Residential Relocations	17	14	5	4
Business Relocations	16	10	9	14
Farmstead Relocations	0	2	0	0
Horse Paddock Relocations	16	16	8	10
Platted Lots Displaced	67	36	0	0
Noise (Number of Residences Affected, including Platted Lots)	486	250	203	431
Bisection of Local Communities – Approximate Acres of Developable Uplands West of Alternative Alignments*	3,123	2,086	2,332	2,779

Impact Category	Alternative			
	A	B	C	E (Selected Alternative)
Archaeological Resources Affected	2	3	2	2
Historic Resources Affected	2	2	2	2
Farmland Lost, acres				
Prime	23	88	28	27
State-important	0	2	0	0
Cost	$479,929,000	$547,500,00	$470,050,000	$436,078,000

Note:

* The approximate acres of developable uplands west of each alternative alignment are based on summary information derived from Tables 4.10b through 4.10f of the Final EIS. This information represents the *relative* impacts of each alternative on community cohesion; the amount of upland area west of a given alignment indicates the area that would be separated from established community resources.

E. ENVIRONMENTALLY PREFERABLE ALTERNATIVES AND LEAST ENVIRONMENTALLY DAMAGING PRACTICABLE ALTERNATIVE

1. Environmentally Preferable Alternatives

Whenever an EIS is prepared, the Council on Environmental Quality (CEQ) NEPA regulations require that the Record of Decision identify all alternatives that were considered, "...specifying the alternative or alternatives which were considered to be environmentally preferable." Ordinarily, the environmentally preferable alternative(s) is the alternative that causes the least damage to the biological and physical environment, but it should also reflect the alternative(s) that best protects, preserves, and enhances historic, cultural, and natural resources. As defined in the CEQ NEPA regulations, effects on the biological and physical environment include ecological, aesthetic, historic, cultural, economic, social, and health effects, whether direct, indirect, or cumulative (40 CFR 1508.8).

Alternatives B and C would both have substantially more impacts on wetlands than Alternatives A and the Selected Alternative. Alternative B would result in 182 ac of direct filling of wetlands, and Alternative C would result in 145 ac of direct filling of wetlands—or 28 to 70 percent more than Alternatives A and the Selected Alternative. Alternative B would also have the greatest impact on prime farmland, affecting 88 ac, followed by Alternative C, which would affect 28 ac of prime farmland. Alternatives A and the Selected Alternative would affect 23 ac and 27 ac of prime farmland, respectively. As a result, for the purposes of NEPA, Alternatives B and C would not qualify as environmentally preferable (see Table 1 above).

Of the alternatives that would meet the project purpose and need, Alternative A and the Selected Alternative are considered the environmentally preferable alternatives, compared to Alternatives B and C, because Alternative A and the Selected Alternative would have far fewer impacts on wetlands and sensitive wildlife habitats, and would result in less loss of acreage of prime farmland. This conclusion is consistent with input received from EPA (see letter from EPA dated March 17, 2005, in Volume 2, Section 3, of the Final Supplemental EIS).

Mitigation measures to offset impacts associated with the Selected Alternative are described below in Section G, *Mitigation Measures*.

2. Least Environmentally Damaging Practicable Alternative

As described above in Section A, *Analysis of Issues Presented by Tenth Circuit Court Ruling*, the Corps cannot issue a CWA Section 404 permit for a project if there is a practicable alternative to the proposal that has less adverse impact on the aquatic ecosystem (i.e., the LEDPA), as long as that alternative does not have other significant adverse environmental consequences.

As described in the previous section, Alternatives A and the Selected Alternative were determined to be the environmentally preferable alternatives under NEPA. Of these two alternatives, the Selected Alternative (Alternative E) is the least environmentally damaging practicable alternative. Alternative A is not a practicable alternative even though it would result in 6 ac fewer direct and 39 ac fewer indirect impact on wetlands, and 10% fewer impacts to wetland function, because it would result in unacceptable impacts in terms of logistics to the communities in the study area and would cost more. Compared to the Selected Alternative, Alternative A would result in:

- **More impacts on the existing community**. Alternative A would isolate three existing homes from the adjacent communities, limiting homeowner ingress and egress and limiting the ability of cities to provide street maintenance and emergency response services. The Selected Alternative will not isolate any homes from existing communities.
- **More impacts on future development**. Alternative A would leave 3,123 acres of developable upland west of the highway. This area would be isolated from established community infrastructure and public service resources, and would lower its development potential. In contrast, the Selected Alternative would leave 2,779 acres of developable upland west of the highway, resulting in 344 fewer acres that would be isolated from community infrastructure and public service resources.
- **More indirect impacts on the Legacy Nature Preserve**. Alternative A would not prevent the development of (344 ac) of land adjacent to the Preserve (see above) that the Selected Alternative (Alternative E) would prevent. Since the development of most of this land would not require authorization from the Corps (i.e., would not impact jurisdictional waters of the U.S.), indirect impacts on wetland and wildlife resources on the Preserve would not be avoided, minimized, or mitigated. Indirect impacts of this development could include degradation of wetland and upland habitat and harassment of wildlife from human disturbance and introduction of feral dogs and cats.
- **More relocation impacts**. Alternative A would require relocations of residential homes (17), business (16), and horse paddocks (16), and would displace 67 platted lots, some of which are currently under construction. The Selected Alternative would require only 4 relocations of residential homes, 14 business relocations, 10 horse paddock relocations and would not displace any platted lots.
- **More expensive**. Alternative A would cost approximately $479,929,000, about $44 million dollars more than the Selected Alternative, which is estimated to cost $436,078,000.

The Corps has determined that Alternative A is impracticable due to unacceptable logistical impacts on the communities in the study area as described above. The Selected Alternative (Alternative E) is therefore ... ic LEDPA because on balance, even though it has slightly higher direct and indirect impacts to aquatic resources, it has substantially fewer logistical impacts and is much less costly than Alternative A.

3. Other 404(b)(1) Guidelines Restrictions on Discharge

Compliance with the 404(b)(1) Guidelines also includes an evaluation of whether the alternative would cause significant degradation of waters of the United States. The Corps evaluated individual and cumulative adverse effects of the Selected Alternative, to human health and welfare, life stages of aquatic life and other wildlife dependant on the aquatic ecosystem, aquatic ecosystem diversity, productivity and stability, and recreational and aesthetic values. Based on the analysis presented in the Supplemental EIS and the *Legacy Parkway Wildlife Impacts Analysis Technical Memorandum* the Corps concludes the Selected Alternative would not cause significant degradation of waters of the United States.

The Selected Alternative also complies with state water quality standards. During preparation of the SEIS, Utah Division of Water Quality determined that the original water quality certification issued on December 5, 2000 would be valid for the updated Legacy Parkway project with the reduced 50 ft median. The Corps contacted Utah Division of Water Quality in October 2005 and confirmed this determination.

F. SETTLEMENT AGREEMENT

After entering into an Agreement in Principle to settle litigation and disputes over Legacy Parkway, UDOT, former plaintiffs, and other interested parties executed a Settlement Agreement on November 14, 2005. The Settlement Agreement is available in the administrative record and on UDOT's website (http://www.udot.utah.gov/dl.php/tid=181/save/Legacy%20Settlement%20Agreement%20Signed%2010-31-05.PDF).

The Settlement Agreement sets forth certain undertakings regarding Legacy Parkway and other transportation projects in the corridor. Under the Settlement Agreement, UDOT has agreed that I-15 in South Davis County will not be expanded until 2020 or later, unless travel demand conditions warrant an earlier date for expansion. Expansion of I-15 in 2020 or later is consistent with the information used in the analysis conducted for the Final Supplemental EIS for Legacy Parkway, which identified the expansion of I-15 as occurring after 2020 in the WFRC long range plan. Travel demand modeling for the Final Supplemental EIS indicates that I-15 expansion may be needed to meet travel demand needs in 2020, and the Settlement Agreement allows UDOT to initiate expansion of I-15 prior to 2020 if travel demand conditions reach LOS D or worse. UDOT also agreed under the Agreement that Legacy Parkway would not be expanded beyond four lanes prior to 2020. This is consistent with information in the Final Supplemental EIS and in the WFRC long range plan.

The Settlement Agreement also includes certain design and operational configurations for Legacy Parkway. Under the Agreement, UDOT has agreed to a posted speed limit of 55 miles per hour (mph), a restriction on large trucks as enacted by the state legislature, use of noise-reducing pavement, and some or all of a series of parkway amenities, such as overlooks along the trail. These design and operational configurations are required under the Settlement Agreement

until 2020 only. Noise-reducing pavement and constructed parkway amenities would be retained beyond 2020, but UDOT could consider the need to raise the posted speed limit and allow large trucks at that time. Depending on the pace of development and the rate of growth in travel demand, UDOT may or may not continue these restrictions beyond 2020. As such, these restrictions are not permanent changes to Legacy Parkway but are intended to be elements of operation of Legacy Parkway during the first 12 or 13 years after project completion. It is worth noting that the truck restriction may be lifted in the event of incidents on I-15 or during the period of I-15 reconstruction.

It is likely that a 55 mph speed limit, a restriction on large trucks, and use of noise-reducing pavement will, individually and collectively, result in less noise generated from Legacy Parkway operations than might have occurred without these features. The Final Supplemental EIS considered the potential noise from operation of Legacy Parkway using different assumptions and concluded that the forecast noise from operations was acceptable under governing standards. Any further reduction in forecast noise levels is a benefit of the Settlement Agreement.

It is also likely that the addition of parkway amenities under the Settlement Agreement will result in the same wetlands impacts as stated in the Final Supplemental EIS because the width of the project footprint will remain 312 ft. Room for amenities will be taken from the width dedicated to the buffer, so long as wetlands are avoided. The Final Supplemental EIS used a 312-ft reduced right-of-way width to calculate all impacts. (It should be noted that wetlands mitigation for the Selected Alternative was based on impacts resulting from a 328 ft right-of-way.)

To provide more curvature to the roadway to enhance the parkway setting, UDOT proposes to meander the alignment of the 312-ft footprint within the 328-ft purchased right-of-way corridor, provided that any shift could reduce fill to wetlands and impacts on other sensitive environmental features located along the edge of the right-of-way. The alignment shifts could also provide additional buffer between the roadway facility and the Preserve or other adjacent natural resources. The Final Supplemental EIS recognized that UDOT intended to use design flexibility and principles of context sensitive solutions for Legacy Parkway, in part, to further reduce impacts on the environment.

The Settlement Agreement outlines certain undertakings by UDOT and provides that the former plaintiffs and other interested parties will not bring suit against the recently completed Supplemental EIS nor against this ROD and CWA Section 404 permit action.

Based on the actions UDOT has agreed to with respect to Legacy Parkway construction and operation, the Corps and FHWA believe that project refinements required by the Settlement Agreement would not result in additional impacts or change conclusions disclosed in the Final Supplemental EIS.

Under the Settlement Agreement, UDOT will also undertake the following steps, which are unrelated to Legacy Parkway: (1) provide financial support for a bus rapid transit or light rail transit environmental impact statement; (2) obtain additional 121-acre mitigation property west of the Legacy Parkway near 500 South to be managed for wetlands and wildlife mitigation, with credits available for other transportation projects; and (3) establish a voluntary Dispute Avoidance and Resolution Process to assist in resolving environmental controversies in advance of and without litigation. Related to the management of Legacy Parkway mitigation, UDOT will

establish a professional Science Advisory Committee to assist with research and information about and concerning the Preserve.

The 121-ac parcel mentioned in the previous paragraph will not be used as mitigation for the Legacy project, but rather as possible mitigation for other transportation projects in the north corridor, such as I-15 reconstruction. Once acquired, the site will be managed as a part of the Preserve. In a letter from the Corps to UDOT, dated October 31, 2005, the Corps recognized that acquisition of the site will benefit the Preserve because the land will buffer the Preserve from planned commercial development that could indirectly impact wetlands on the Preserve. The amount of wetland mitigation credit for this additional 121 acres of land will depend on the acres of wetlands on the site and the degree that the protection and management of the property will increase the overall functioning of neighboring wetlands on the Preserve. If UDOT proposes public access or public education facilities, permit conditions will require that UDOT consider prioritizing use of this site over other areas on the Preserve.

G. MITIGATION MEASURES

The Selected Alternative alignment was designed to avoid and minimize adverse environmental impacts. As described in Chapter 3, Alternatives, of the Final Supplemental EIS, the configuration and location of the Selected Alternative was refined during the NEPA and transportation planning processes to reflect an alignment that minimizes impacts on sensitive natural resources while meeting transportation and land use planning needs of the local communities in the study area.

Having taken steps to avoid and minimize impacts by adjusting the alignment, UDOT also identified ways to further minimize and/or compensate for unavoidable adverse impacts associated with the Selected Alternative. The anticipated impacts are summarized in Table 4 above, and the selected minimization and compensatory mitigation measures that will be implemented are summarized by impact category in Table 5 below. A complete discussion of the environmental consequences of the Selected Alternative is provided in Chapter 4, Supplemental Environmental Analysis, of the Final Supplemental EIS.

Table 5 Mitigation Summary for Selected Alternative

Impact Category	Mitigation Measures
Wetlands (Direct and Indirect)	

The earthen berm located within the 81–84 ft buffer will be replaced by an alternate visual and acoustic buffer with a smaller footprint to avoid up to 2 acres of wetlands.

The restoration and enhancement of habitat on the Preserve will mitigate the wetland impacts. The extent of the Preserve has been modified since publication of the 2000 Final EIS. In addition to the 317 ac of mitigation lands added at the request of USFWS, four additional parcels totaling 530 ac were added to the Preserve at the request of EPA. The incorporation of these additional parcels would create a 2,098-ac mitigation Preserve.

To mitigate the loss of 103 acres of wetlands and indirect effects on 605 acres of wetlands, the following will be provided in accordance with Appendix F, *Draft Wetlands Mitigation Plan*, of the Final Supplemental EIS.

	MITIGATION (acres)				
Jurisdictional Areas	**Active Restoration [a]**	**Overall Restoration [b]**	**Creation**	**Re-establishment [c]**	**Mitigation Total [d]**
Marsh	34	113	0	0	147
Wet Meadow	90	262	12	8	372
Playa	63	163	0	0	226
Unconsolidated Shore	0	48	0	0	48
Open Water	2	4	0	0	6
Total	**189**	**589**	**12**	**8**	**798**

[a] Active restoration encompasses measures such as modifications to hydrology (for example, restoring water to the Jordan River floodplain, filling in drainage ditches, and relocating artesian wells to restore wetland hydrology).

[b] Overall restoration includes measures implemented throughout the Preserve such as site protection (external fencing), control of noxious / invasive species, removal of trash and debris, and removal of land uses such as livestock grazing to manage lands for wildlife.

[c] Re-establishment on the Preserve consists of removing fill material at several dumpsites resulting in rebuilding former wetlands to yield a gain of wetland acres.

[d] Values are rounded to the nearest whole number. Summing the values in the Mitigation Total column would equal 799 acres; however, 798 ac is accurate.

Impact Category	Mitigation Measures
	The following summarizes the status of the mitigation measures included in the Draft Mitigation Plan. Mitigation activities that have been completed are shown in standard text; measures that have yet to be completed are shown in italics. • Road removal. More than 8,000 linear feet of dirt roads have been removed and revegetated, resulting in the conversion of these areas to 2.3 acres of improved wildlife habitats and adjacent habitat connectivity. *More than 31,000 linear feet of roads in the Preserve remain that are slated for abandonment and/or removal (estimated 3.4 acres).* • Fill, debris, and structure removal. More than 3,000 dump truckloads of debris and fill material have been removed (about 900 tires, extensive cement piles, five car frames); five large structures have been removed; and more than 8 acres of wetlands have been re-established. *Additional areas containing fill and debris have been identified for future cleanup.* • Drainage ditches fill in. To restore the natural water table, more than 18,000 linear feet of ditches have been filled in with spoils and contoured back to natural topography. *A few smaller sections of ditches remain to be filled.* • Internal fence removal. All 10,000 linear feet of fences within the Preserve have been removed. • Perimeter fence installation. Approximately 70% of the 6-mile perimeter fencing for the Preserve has been installed to reduce human disturbance. *The perimeter of remaining accessible Preserve areas will be fenced (where not adjacent to other protected areas).* • Livestock grazing prohibition. Between 60% and 70% of the 2,100-acre Preserve was previously subject to grazing. All grazing within the Preserve has been prohibited. *Controlled grazing may be considered for managing habitat.* • Utility relocation. Two major utility lines previously within the Preserve have been relocated to outside the Preserve. *Coordination with PacifiCorp is ongoing to minimize wildlife disturbance.* • Hydrologic restoration. Extensive restoration activities have been completed for the Jordan River floodplain and adjacent areas, as follows: (1) the Old Jordan River oxbow and channel, called the Mini Jordan River, has been recreated, totaling 1.5 mi; (2) an island called Lord Byron's Island has been created within the Mini Jordan River; (3) 1,280 ft of meander channel have been constructed; (4) a water delivery and control system has been designed and constructed; (5) water rights have been obtained. *Implement adaptive management plan in order to manage Preserve hydrology to benefit wildlife.* • Noxious weed and invasive species control. Comprehensive surveys of noxious weeds/invasive species have been completed and adaptive management measures to control undesirable plants have been initiated. *Surveys and initial treatment results will be used to develop and implement an appropriate control plan.* Additional measures specific to the implementation and compliance with the wetland mitigation plan are included in the Corps 404 permit #200350493, *under Special Conditions.*
Land Use	None.
Farmland	Owners of farmland directly within the Legacy Parkway right-of-way will be compensated according to requirements of the URAA and other state and federal guidelines. In the case of indirect impacts, UDOT will determine whether (based on the comparative costs) access is restored or the remainder of the farmland is purchased. These mitigation measures do not replace any farmland taken by the project.

Impact Category	Mitigation Measures
Social	
Socially Disadvantaged Groups and Environmental Justice Populations	Business displacement assistance would be provided to Commercial Coatings, pursuant to the eligibility and other requirements of the URAA.
Public Facilities	Compensation will be provided for the real property taken or damaged or the publicly owned real property will be functionally replaced with another facility that will provide an equivalent use.
Public Services and Utilities	The relocation of utilities will cause possible impacts on wetlands, farmlands, and native vegetation. Generally, these impacts will be temporary in nature. Disturbed areas from pipeline relocations will be backfilled and restored to their pre-construction contours. Mitigation measures for impacts on wetlands are described above and below for impacts on farmland.
Recreation Resources	Motorized vehicles will access the Farmington Bay Waterfowl Management Area (FBWMA) by taking the 500 South exit off Legacy Parkway and the corresponding frontage road. Similarly, motorized vehicles would access Bountiful City Pond by taking the 500 South exit and the frontage road along the west side of Legacy Parkway. Non-motorized access would be provided to both the FBWMA and the Bountiful City Pond by the frontage roads that run along the west side of the proposed alignments. Access to the frontage roads would be provided at 500 South. Mitigation for impacts on the recreation resources will be accomplished by replacing the lands lost and reshaping the shoreline to provide an equivalent area for users of the pond.
Relocations	
Residential	Relocation assistance will be provided to the affected households, pursuant to the eligibility and other requirements of the URAA.
Business	Business relocation and re-establishment assistance will be provided to the affected businesses, pursuant to the eligibility and other requirements of the URAA.
Farm and Horse Paddocks	Assistance will be provided to the affected farmstead and horse paddock operations, pursuant to the eligibility and other requirements of the URAA.
Economic	None.
Joint Development	The 312-ft highway right-of-way proposed for this project includes room for the trail. Impacts on wetlands, farmlands, and wildlife from the trail will be included in the mitigation for the overall project.
Pedestrian and Bicyclist Considerations	None.

Impact Category	Mitigation Measures
Air Quality	Non-tailpipe PM10 emissions will be minimized through street sweeping, minimal use of sand for snow and ice control, and other general maintenance measures performed by UDOT. See the discussion of construction impacts below for mitigation for construction-related air quality impacts.
Noise	None.
Water Quality	
Surface Water and Groundwater from Parkway Operations	Through coordination with the Corps, UDEQ, and UDOT, mitigation requirements were selected to provide acceptable water quality protection once Legacy Parkway is operational. The following mitigation will be provided. • Minimization of salting. UDOT will minimize salting on the roadway to the extent practicable. • Retention pond. UDOT will construct a retention pond near Center Street to retain sufficient runoff from a 100-year-storm flows to prevent discharge to the Jordan River. • Minimization of concentrated discharges. Legacy Parkway will be constructed without curbs so that stormwater runoff will sheetflow off the highway. Stormwater will be concentrated only where necessary (i.e., to collect drainage on overpasses). This concentrated stormwater will not be discharged directly into wetlands or into streams with quantitative water quality standards. Instead, concentrated discharges will be routed over vegetated buffer strips (grassy median) or dissipated back to sheetflow. • Vegetated filter strips. Roadway design will include vegetated filter strips (grassy median and sideslopes) to improve the quality of water runoff from the highway, as recommended by the Corps and UDEQ. All cleared areas within the right-of-way except the paved surface will be vegetated to filter suspended particles, metals, oils, and greases from the runoff. • Surface water conveyance. Runoff on the upstream side of the road will gradually flow to the toe of the roadway slope and/or the berm, then cross under the road through small surface water conveyances. The conveyances will be positioned to maintain sheetflow conditions across the study area to the extent practical, minimize concentrated discharges for water quality and wetland mitigation, and, at a minimum, limit culverted discharges to less than 5 cu ft per second. Surface water conveyances will be installed in areas where an existing hydrologic connection will be cut off by the proposed highway. The conveyances will be designed to pass surface water through the road in the direction or directions of its existing flow. The conveyances could be many types of drainage structures, including culverts, series of small culverts, French drains, corrugated strip drains, synthetic drainage nets, and gravel layers. • Floodplain equalization culverts. Based on specific hydraulic design information, UDOT and the Corps determined that equalization culverts for the purpose of equalizing floodwaters across the road will only be needed within the Corps floodplain boundary (4,217 ft), rather than along entire length of the proposed roadway. • Groundwater conveyance. Groundwater conveyance structures will be installed to mitigate the potential impact of the road embankment, consolidating underlying soils and impeding groundwater flows. Groundwater conveyances will be installed in areas where fill heights exceed approximately 10 ft and will extend from the eastern fill limit to the western fill limit.

Impact Category	Mitigation Measures
	• Scour and erosion protection. If warranted, scour protection to mitigate downstream erosion will be provided at all culvert outlets and stream crossings, based on a case-by-case analysis to determine outlet velocities. Velocities will be calculated for 50-year storm flows except at stream crossings, where the 100-year storm flow will be used. For velocities greater than 4 ft per second but less than 15 ft per second, loose riprap will be provided, based on UDOT design guidelines (Utah Department of Transportation 2004). For velocities greater than 15 ft per second, an energy dissipater will be provided.
Groundwater Rights	UDOT will either purchase the groundwater right from the owner or pay for a transfer of the right. The determination will be made on a case-by-case basis.
Permits	None.
Wildlife (Direct and Indirect)	
Acreage	Based on the analysis presented in Section 4.13, *Wildlife*, of the Final Supplemental EIS, the restoration and enhancement measures for the Preserve would mitigate the direct loss of wildlife habitat, habitat fragmentation, and noise impacts (see the discussion of wetlands mitigation above). The Preserve would provide wetland and upland habitat at about a 3:1 acre ratio of mitigation habitat to direct habitat loss for a wide variety of species, including migratory birds. The wetland restoration measures for the Preserve (see the discussion on wetlands above) would also benefit wildlife. The Preserve would provide wetland and upland habitat for a wide variety of species. An additional 317 ac of mitigation lands proximate to the FBWMA were added to the Preserve, at the request of USFWS, to offset wildlife impacts not captured by the wetland functional assessment models. In addition, four additional parcels totaling 530 ac were added to the Preserve to address EPA's concerns regarding the adequacy of the mitigation package. The incorporation of these additional parcels directly into the mitigation package would result in preservation of a 2,098-ac area. As additional mitigation for unquantifiable impacts on bird populations from project noise, UDOT has committed to fund a study to determine the effects of highway noise on bird populations in the project area and comparable habitats. The study, which is being collaboratively designed by the federal lead agencies, UDOT, USFWS, and UDWR, will include the monitoring of bird populations and noise before, during, and after construction of the highway. The results of the monitoring will be used to develop a tool for the analysis of noise impacts on wildlife for future projects. A statement of commitment outlining the specifics of the noise study, and signed by the federal lead agencies, UDOT, and the resource agencies, is included in Appendix H, *Statement of Commitment*, of the Final Supplemental EIS. Based on the analysis presented in Section 4.13, *Wildlife*, the Preserve would mitigate the direct loss of wildlife habitat, habitat fragmentation, and noise impacts.
Streams	The Jordan River would be bridged, and natural stream substrate culverts would be used along perennial streams (Farmington Creek) and other large drainages requiring culverts larger than 4 ft in diameter to facilitate movement of fish and other aquatic wildlife. The culverts would be placed at an elevation that would retain natural stream substrates and have the greatest value in maintaining natural conditions.
Vegetation	The right-of-way will be landscaped with non-invasive vegetation.

Impact Category	Mitigation Measures
Equalization Culverts	Culverts would be installed to allow floodwater during Great Salt Lake's high-water years to pass beneath the roadway and supply wildlife habitat east of the right-of-way. In addition, vegetated filter strips and surface water conveyance structures will be incorporated into the project design to minimize impacts on water quality and hydrology. These structures are described in the discussion of water quality mitigation above.
Birds	Raptors. Preconstruction surveys of known raptor nests will be conducted within the Legacy Parkway corridor by a qualified wildlife biologist to determine which nests are active. If nests are determined active, coordination with USFWS and UDWR will occur, and appropriate actions under the Migratory Bird Treaty Act and USFWS Raptor Guidelines (Romin and Muck 1999) will be followed to ensure the least amount of impact on the species. Peregrine Falcon. Also see the section on threatened and endangered species below. UDOT will prevent construction activities from impacting nesting peregrine falcons by implementing the following measures. *Construction Activities.* • UDOT will require a qualified wildlife biologist to monitor the nest for any activities occurring within 1 mi of the nest from the courtship through post-fledgling dependency periods (about a 126-day period from February 1 through August 31). If, during monitoring, the peregrine falcons appear disturbed in any manner, construction activities will immediately cease and UDOT will immediately consult with USFWS before continuing construction activities. *Human Use.* • Human use of project lands will be controlled to prevent any take (particularly harm and harassment) of nesting peregrine falcons and/or their young. • Project employees will be informed of the presence of the peregrine falcon and the need to minimize disturbance during nesting. • No recreational trail facilities that encourage extended human use of the area (for example, picnic tables and rest areas) will be constructed on project lands within 1 mi of the nest and roost sites. Additionally, no animals, including livestock and/or pets, will be allowed on mitigation properties. • Right-of-way fences will be constructed and maintained along the length of the Parkway. Bald Eagle. See the section on threatened and endangered species below.
Floodplains	The road elevation will be sited above the 100-year flood elevation of the streams that the project crosses and Great Salt Lake. Any damage sustained by the new roadway when the lake level is high would be corrected through road maintenance. Major drainage structures would be designed to pass the 100-year flood without overtopping the road or changing the regulatory floodway. Riprap and other measures would be provided at the ends of drainage structures to control erosion where appropriate.
Equalization Culverts	Floodplain equalization culverts will be constructed within the Corps floodplain to allow floodwater to pass back and forth beneath the roadway to preserve the natural and beneficial floodplain.

Impact Category	Mitigation Measures
Threatened and Endangered Species	
Wildlife – Birds	The Preserve would provide long-term benefits for avian species. Additional reasonable and prudent measures and their terms and conditions based on the USFWS Biological Opinion are outlined below. Because the peregrine falcon has been delisted as an endangered species, the terms and conditions of the biological opinion with respect to peregrine falcon are no longer considered nondiscretionary under authority of the ESA. However, USFWS still recommends implementation of these measures. Bald Eagle. To prevent construction activities from impacting nesting or wintering bald eagles: • No construction activity will occur from the courtship through incubation/brood rearing periods (approximately January 1 through May 21) within 1 mile of a bald eagle nest. • During the nestling through post fledging dependency period (approximately May 21 through August 31), the 1-mile buffer may be changed to 0.5 mile for some activities. Coordination with and concurrence from USFWS must occur prior to any activities occurring under this condition. • The Corps and/or FHWA will require continuous monitoring of the bald eagle nest by a qualified wildlife biologist for activities occurring within 1 mile of a bald eagle nest. • If, during monitoring, bald eagles appear disturbed in any manner, construction activities will immediately cease, and the Corps and/or FHWA will immediately follow the reporting requirement issued in the biological opinion. • No construction activities will occur from November 1 through March 31 within 0.5 mile of bald eagle winter roosting sites. Bald Eagle (and Peregrine Falcon). To control human use of the area to prevent take, particularly harm and harassment, of nesting and wintering bald eagles and peregrine falcons and/or their young: • Project employees will be informed of the presence of bald eagles and peregrine falcons and the need to minimize disturbance during nesting and wintering periods. • No recreational trail facilities that encourage extended human use of the area will be constructed within 1 mile of nest and roost sites. • Right-of-way fence will be constructed and maintained along the length of the highway to deter human use of the proposed Preserve. To prevent highway maintenance activities from impacting nesting bald eagles and peregrine falcons over the life of the project: • No maintenance activities that result in noise or activity levels above that of normal highway operation conditions will be conducted within 1 mile of peregrine falcon aeries and 1 mile of bald eagle nest sites during the breeding season. • No maintenance activities that result in noise or activity levels above that of normal highway operation conditions will be conducted from November 1 through March 31 within 0.5 mile of bald eagle winter roost sites.

Impact Category	Mitigation Measures
Historic and Archaeological Resources	
Historic Structures	The White House at 10 North 650 West in Farmington has been demolished since publication of the Final EIS in 2000. Mitigation for this adverse impact was completed by documenting the building to Utah State Intensive Level Survey (ILS) standards before its removal. Historic Properties eligible under criterion C would be documented to Utah State ILS standards prior to demolition. Mitigation of adverse affects on the historic structures at 1300 W. Glover Lane and 662 W. Clark Lane, both in Farmington, would be conducted according to the September 2005 MOA. Mitigation measures would include preparation of an ILS form, photographic documentation of the structures, preparation of illustrated floor plans, archival research, and a submittal to the Utah Division of History, Preservation Section. In addition to the ILS documentation, a retaining wall would be built for 662 W. Clark Lane. The September 2005 MOA includes design mitigation measures to ensure that project-related impacts on the Clark Lane Historic District (CLHD) are minimized and that the CLHD and its contributory elements are returned to their original pre-construction condition. The September 2005 MOA also includes measures to minimize potential harm from construction-related vibration.
Prehistoric and Archaeological Sites	Archeological sites would be excavated and data recovered in accordance with the September 2005 MOA. All activities would be coordinated with the SHPO and the ACHP. The MOA was also distributed to regional Native America Tribes for their concurrence. Mitigation would be required for any NRHP-eligible archaeological site physically affected by construction. Typical mitigation measures for NRHP-eligible archaeological sites include archival investigations, development of a data recovery plan, and consultation between FHWA, UDOT, SHPO, the tribes, and other consulting parties. To date, consultation with SHPO has resulted in the following specific mitigation measures. • In accordance with the September 2005 MOA, the site limits of 42Dv2 and 42Dv94 will be delineated and protected from construction activities through the use of construction fencing. • To minimize impacts on 42Dv70, a professional archaeologist will monitor excavation and earthmoving activities associated with highway construction in the vicinity of the site. If the monitoring archaeologist determines during the design-bid-build process that the site boundaries extend into the construction footprint, data recovery will be initiated in accordance with the September 2005 MOA. In addition, the Preserve mitigation plan will include a management plan to ensure the future health of cultural resources within the boundaries of the Preserve.
Historic Railroad Corridors	Direct use of the D&RG Railroad would occur by crossing it at grade at one location. To reduce the direct use by 0.8 ac the parkway will span the D&RG Railroad with an arch structure at the crossing just south of Parrish Lane. SHPO concurred that the Selected Alternative would have no adverse effect on the NRHP-eligible D&RG Railroad corridor or the NRHP-eligible UPRR corridor.

Impact Category	Mitigation Measures
Hazardous Waste Sites	Measures would be implemented to prevent the spread of contamination and worker exposure to contaminants during construction. In the case of known chemical hazards, the site remedy may be negotiated through the U.S. EPA and/or UDEQ; remedial action would be conducted by a qualified hazardous waste contractor certified by the U.S. OSHA. If contamination by unknown chemical hazards is suspected, the Parkway construction contractor would stop work. The contractor would employ the services of a certified industrial hygienist and environmental scientists who can identify the nature of the hazard and appropriate response measures. The Northwest Oil Drain site would be mitigated by avoidance through bridging. The impacts on the Bountiful Sanitary Landfill would be mitigated by relocating the facilities and removing landfill waste material located within the right-of-way, and disposing of it at a permitted facility.
Visual Resources	Revegetation of the highway grade would help soften the visual impacts of the highway and blend it into the existing landscape. Native plants would be used where possible. The work would be completed as quickly as possible after construction to lessen the amount of time the highway grade would be more visible. Landscaping and a trail system are planned for the entire length of Legacy Parkway. Landscaping includes different approaches for different areas. Where Legacy Parkway is adjacent to I-15, grasses would be used. In areas of open farmland and light industry, there would be moderate tree and shrub planting. Windows facing east would maintain views of the mountains and windows facing west would maintain open views. In residential areas, berms and tree and shrub plantings would be used.
Energy	None.
Construction	A public information program will be implemented to alert the community of ongoing and future construction activities. Information would include construction work hours and alternative travel routes. Signs would be used to notify motorists of work activities and changes in traffic patterns. Night and weekend work may shorten the duration of the construction impacts. Lights used during nighttime construction would be aimed directly at the work area and/or shielded from nearby residences. Construction activities would be limited during certain periods to protect threatened and endangered species.
Best Management Practices	The following construction BMPs will be implemented during construction. • Silt fence. • Berms. • Check dams. The silt fence will be placed to filter out silt/sediment from stormwater before stormwater runoff leaves the right-of-way. Earthen berms will be placed along both sides of the right-of-way inside the silt fence. Check dams will then be placed at each drainage crossing. These BMPs will prevent silt and sediment from leaving the right-of-way.

Impact Category	Mitigation Measures
Construction Noise	To reduce temporary noise from construction, contractors will comply with all state and local regulations relating to construction noise. In addition, the following measures will be implemented. • Construction will be restricted to daytime hours within 1,000 ft of residences. No construction will be performed within 1,000 ft of an occupied dwelling unit on Sundays or legal holidays or between 10:00 p.m. and 6:00 a.m. on other days. Any variance from this condition will require approval by the UDOT construction manager. • All equipment will have sound control devices at least as effective as the original factory-installed devices. No equipment will have unmuffled exhaust. • The noise from any rock-crushing or screening operations conducted within 3,000 ft of any occupied dwelling unit will be mitigated either by placing material stockpiles between the operation and the affected dwelling or by other means approved by the UDOT construction manager. • As directed by the UDOT construction manager, the contractor will implement appropriate additional noise mitigation measures, possibly including changing the location of stationary construction equipment, shutting off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, or installing acoustic barriers around stationary construction noise sources.
Construction Haul Routes	UDOT will specify that the contractor only use state roads as haul routes. Haul routes will vary depending on where construction is taking place along the roadway.
Construction Air Quality	Fugitive dust, which is dust generated by construction equipment such as haul trucks and earth-moving vehicles, will be mitigated according to a dust control plan, to be developed by the contractor according to Utah Division of Air Quality standards. This plan will include measures for minimizing fugitive dust, such as applying dust suppressants and water sprays, minimizing the extent of disturbed surface areas, and restricting activities during periods of high wind.
Construction Vibration on Clark Lane Historic District	This mitigation includes maximum energy ratings for pile driving hammers, prescribed vibration monitoring requirements for the home at 399 W. State Street, specific guidance on measures to take if vibration levels exceed 0.3 cm/sec (0.12 in/sec), a requirement for pre- and post-construction surveys of structures in the CLHD, and notification of homeowners in the district prior to pile driving activities.
Construction Streetscape Impacts	None of the build alternatives would affect mature trees in front of 393 W. State Street and 398 W. State Street in the CLHD. To ensure that the CLHD and its contributory elements are returned to their original pre-construction condition, the September 2005 MOA stipulates that the design of the State Street overpass will include provisions for minimizing grade changes, redesigning and incorporating sidewalks within the CLHD into the sidewalks for the new bridge structure, and maintaining existing landscape and streetscape features.
Short-Term Uses vs. Long-Term Productivity	None.
Irreversible and Irretrievable Commitment of Resources	None.

Impact Category	Mitigation Measures
Section 4(f) Properties	Mitigation measures specific to Section 4(f) properties are described in the FHWA ROD.
Section 6(f) Properties	Mitigation measures specific to Section 6(f) properties are described in the FHWA ROD.

Notes:
ACHP = Advisory Council on Historic Preservation
BMPs = best management practices
Corps = U.S. Army Corps of Engineers
EPA = U.S. Environmental Protection Agency
FBWMA = Farmington Bay Waterfowl Management Area
ILS = Intensive-Level Survey
MBTA = Migratory Bird Treaty Act
MOA = Memorandum of Agreement
OSHA = Occupational Safety and Health Administration
PA = Preferred Alternative
SHPO = (Utah) State Historic Preservation Office
TSS = total suspended solids
UDEQ = Utah Department of Environmental Quality
UDOT = Utah Department of Transportation
UDWR = Utah Division of Wildlife Resources
UPDES = Utah Pollutant Discharge Elimination System
URAA = Uniform Relocation Assistance Act
USFWS = U.S. Fish and Wildlife Service

H. ADEQUACY OF THE WETLAND MITIGATION PACKAGE

As described above in Section G, Mitigation Measures, UDOT will protect in perpetuity 2,098 ac of land (the Legacy Nature Preserve [Preserve]) adjacent to and west of the Selected Alternative alignment. The mitigation consists of creation of 12 acres and restoration and enhancement of 778 ac of wetlands to mitigate direct and indirect impacts on wetland and wildlife habitats. The Preserve concept was originally developed in 1997 by a wetlands mitigation coordination group consisting of representatives from UDOT, EPA, USFWS, DWR, wildlife management areas, environmental groups, and the Corps. The group evaluated where and what type of mitigation would be most appropriate and came to consensus favoring preservation and acquisition of bufferlands. The size of the Preserve was based on the wetlands functional assessment and an established ratio of wetlands impacted to wetlands preserved. For the long-term management of the Preserve, UDOT established an interdisciplinary team in January 2005 to develop wildlife-oriented goals and procedures. The team included representatives from resource and regulatory agencies, local environmental groups (e.g. Sierra Club and the Friends of the Great Salt Lake) and state and federal wildlife refuge managers. In summary, the Selected Alternative will result in direct impacts on 113 ac of wetlands (loss of 300 FCUs) and indirect impacts on 595 ac of wetlands (loss of 329 FCUs). Indirect impacts were determined based on the results of the wetlands functional assessment model and result in the following additional mitigation being incorporated into the design of the Preserve.

- An additional 329 FCUs were added to the mitigation requirement for the Preserve to mitigate the incremental loss of functions of 595 ac of indirectly affected wetlands. This is the equivalent to doubling the mitigation requirement for direct impacts.
- An additional 148 FCUs were deducted from the total available mitigation credits generated from the Preserve because the Selected Alternative is located adjacent to the Preserve along much of its length and is not protected by a buffer. Hence, wetlands within 1,000 ft of the Selected Alternative alignment (i.e., 255 ac) would be indirectly impaired by the Legacy Parkway. The loss of 148 FCUs is the equivalent to the loss of 30 acres of high-quality, pristine wetlands, or about 50 acres of medium quality wetlands.

The baseline conditions of the wetlands on the Preserve are described in Table 3-3 in Appendix F in the Final Supplemental EIS. On a functional rating scale that ranged from low to high relative to the existing functional quality of study area wetlands, about half of the wetlands in the Preserve were rated medium and half were rated medium to high. In terms of individual functions, hydrology and water quality functions were generally higher than wildlife habitat functions. The dominant wetland class was lacustrine fringe and the dominant wetland vegetation cover was seasonal wet meadow.

During the public comment period and preparation of the Final Supplemental EIS, the resource agencies and former plaintiffs identified the following concerns regarding the adequacy of the Preserve to offset impacts associated with the Selected Alternative.

- Implementation of the Preserve would result in an impact-to-mitigation ratio for the Selected Alternative that would not always meet 1:1 for all wetland functions.

- Mitigation activities at the Preserve would be out-of-kind because the wetlands in the Preserve would be of a different wetland class and vegetative cover type than those affected by the Selected Alternative.
- Mitigation credit for preservation activities on the Preserve was inappropriately applied because credit was given for preserving wetlands below the FEMA floodplain elevation of 4,212 ft.
- Natural fluctuations in the level of Great Salt Lake will make portions of the Preserve unavailable to wildlife when lake levels are high.

To respond to these concerns, UDOT prepared the Technical Report *Analysis of Adequacy of Wetland and Wildlife Mitigation,* which was included as Appendix E of the Final Supplemental EIS. The report evaluates the impacts of the Selected Alternative on wetland function, wetland class, vegetative community, and changes in the level of Great Salt Lake, and compares those impacts to the mitigation credit that would be derived from establishing the Preserve. The Corps has participated in preparation of and reviewed the technical report and concurs with the applicant's assessment that the use of the Preserve as proposed is ecologically preferable and will adequately mitigate impacts associated with the Selected Alternative. The following provides specific responses to the concerns identified above.

1. Implementation of the Preserve would result in an impact-to-mitigation ratio for the Selected Alternative that would not always meet 1:1 for all wetland functions.

Table 6 provides a comparison of the functional capacity units that would be lost under the Selected Alternative to the functions that would be gained at the Preserve.

Table 6 Comparison of Impacts and Mitigation in FCUs by Function and Wetland Class

	Impact (Mitigation)				
Wetland Class	Function 1 (Maintain Wetland Hydrology)	Function 2 (Removal of Dissolved Elements and Compounds)	Function 3 (Particulate Retention)	Function 4 (Habitat Vegetation Structure)	Function 5 (Habitat Connectivity, Fragmentation, Patchiness)
Basin Depressional	53 (32)	53 (33)	56 (43)	32 (69)	51 (59)
Groundwater Slope	30 (35)	30 (36)	24 (53)	27 (48)	32 (47)
Lacustrine Fringe	67(105)	45 (105)	46 (133)	40 (249)	47 (174)

In summary, there would be a net loss in the hydrology and water quality functions for basin depressional wetlands; all other functions would be mitigated at greater than a 1:1 impact-to-mitigation ratio. The Corps has determined that this is acceptable for the following reasons.

The primary mitigation objective for the Preserve is to provide a large, continuous buffer between Great Salt Lake and potential future development. Land acquisition was favored over wetlands creation in order to maximize the Preserve size. As described in the Final EIS, the concept of a Preserve was developed with input from resource agencies and other experts familiar with the GSLE, and through consideration of existing programs to protect wetlands and wildlife habitat along Great Salt Lake (i.e., wildlife refuges, mitigation sites, duck clubs, and conservation groups).

- The wetland hydrology impacts associated with the Selected Alternative are overstated because the wetlands functional assessment model was not adjusted to account for the

mitigating effects of proposed culverts and drainage features of the roadway. The model predicts the roadway would act as a major barrier to the movement of water needed to support adjacent wetlands, greatly altering the hydrologic regime (e.g., recharge, detention, and discharge), and its ability to improve water quality. Design features that would be used to offset these hydrology impacts include installation of groundwater conveyance structures, floodwater equalization culverts, and vegetated filter strips (see Section G, Mitigation Measures, above).

- Benefits of removing tile drains, filling in ditches, and other opportunities to improve hydrology and water quality functions were few. Most of the wetlands on the Preserve were in good condition. To adequately mitigate (i.e., mitigate at a 1:1 impact-to-mitigation ratio) for hydrology impacts associated with the Selected Alternative, the equivalent of the removal of a 14-mile levee or a 14-mile deep ditch would have been needed.

2. Mitigation activities at the Preserve would be out-of-kind because the wetlands in the Preserve would be of a different wetland class and vegetative cover type than those affected by the Selected Alternative.

Wetland Class

Some of the wetland functions lost in the depressional wetland class (i.e., those functions mitigated at less than a 1:1 mitigation-to-impact ratio) will be compensated for by mitigating at higher ratios in the lacustrine fringe wetland class (Table 6). This emphasis on lacustrine fringe wetlands is desirable because it reflects the mitigation objective to provide a large, continuous buffer between Great Salt Lake and potential future development. In fact, an additional 317 acres of land adjacent to Farmington Bay Wildlife Management Area (FBWMA) was included in the mitigation package specifically at the request of USFWS to provide a buffer between the FBWMA and future development.

Mitigating all the wetlands "in-kind" is not feasible within the Preserve because wetland types and functions are not uniform across the study area. The Preserve is located on the west side of the study area and consists primarily of lacustrine fringe wetlands, whereas the Selected Alternative will primarily affect wetlands along the east side of the study area, most of which are depressional basin and groundwater slope wetlands.

In addition, based on the wetland classification convention used for the Legacy project analysis, there is generally little difference between the function, vegetative cover type, and hydrologic regime of lacustrine fringe and depressional basin wetlands. When applying the wetland functional assessment model for the Legacy Parkway project, wetland complexes forming closed basins were classified as either lacustrine fringe or basin depressional based on their proximity to the FEMA floodplain elevation of 4,212 ft rather than on their dominant hydrologic regime or dominant vegetative cover. Wetland complexes forming closed basins located at or below 4,212 ft were classified as lacustrine fringe wetlands, and those above 4,212 ft were classified as basin depressional. Based on the 150-year hydrograph, the historic frequency of inundation of the lacustrine fringe wetlands is 10 percent and diminishes to 0 percent at 4,212 ft. Because the hydrology of lacustrine fringe wetlands is derived from precipitation and their vegetative cover is similar to complexes in basin depressional wetlands, lacustrine fringe wetlands are most often indistinguishable from depressional wetlands, making mitigation of these two wetland classes comparable. Wildlife usage would also be similar between the two classes.

Vegetative Cover Type

Table 7 provides a comparison of acreage of the different wetland vegetation communities that will be lost under the Selected Alternative to the acreage that will be gained on the Preserve.

Table 7 Wetlands Impacts and Mitigation (Acres) under Selected Alternative

Wetland Vegetative Cover Type	Impacts	Mitigation				
	Direct Impacts [a]	Active Restoration [b]	Overall Restoration [c]	Creation	Re-establishment [d]	Mitigation Total [e]
Wet Meadow	65	90	262	12	8	372
Marsh	24	34	113	0	0	147
Playa	18	63	163	0	0	226
Open Water	7	2	4	0	0	6
Unconsolidated Shore	0	0	48	0	0	48
Total	113	189	589	12	8	798

Notes:

[a] This analysis assumes that all wetlands within the Parkway right-of-way would be filled.

[b] Active restoration encompasses measures such as restoration of water to the Jordan River floodplain, fill of drainage ditches, and relocating of artesian wells to restore wetland hydrology.

[c] Overall restoration includes measures includes the active restoration measures described above, as well as site protection (external fencing), control of noxious / invasive species, removal of trash and debris, and removal of land uses such as livestock grazing to manage lands for wildlife.

[d] Re-establishment on the Preserve consists of removing fill material at several dumpsites resulting in rebuilding former wetlands to yield a gain of wetland acres.

[e] Values are rounded to the nearest whole number. Summing the values in the impacts column would equal 114 acres, 113 acres is correct. Similarly, summing the values in the Mitigation Total column would equal 799 acres, however, 798 is accurate.

The Preserve under-mitigates the emergent marsh vegetation, but over-mitigates the playa community. Playa wetlands are uncommon compared to marsh or wet meadow wetlands; the study area contains 710 acres of sedge/cattail habitat (emergent marsh wetland/wildlife habitat), but only 440 acres of mudflat-pickleweed habitat (playa wetland/wildlife habitat). Because playa habitat is important for shorebirds, has suffered proportionally more historic losses, is exceptionally difficult to create, and is less common, preserving and restoring playa wetlands is ecologically preferable. As a result, "out-of-kind" mitigation, when considered by vegetative cover type, is appropriate for the Legacy Parkway project. This is consistent with Corps Regulatory Guidance Letter 02-02, which states that "out-of-kind mitigation is appropriate when it is practicable and provides more environmental or watershed benefits than in-kind compensation (e.g., of greater ecological importance to the region of impact).

3. Mitigation credit for preservation activities on the Preserve was inappropriately applied because credit was given for preserving wetlands below the FEMA floodplain elevation of 4,212-ft.

Table 8 shows that almost all the wetlands on the Preserve (777 ac) received preservation credit. This led commenters to believe that UDOT was collecting mitigation credit for preserving

wetlands below 4,212 ft, which they believed was inappropriate because wetlands at that elevation are not under imminent threat of development (i.e., they are below the FEMA 100-year floodplain elevation). The correct interpretation of the table is that all the 777 ac of wetlands on the preserve, including those located below 4,212 ft, would benefit from the exclusion of development. Although called "preservation credit," it is more accurately viewed as credit for excluding development on developable uplands. Excluding development would prevent indirect impacts on adjacent wetlands.

Table 8 Preservation Credits (FCUs) for the Legacy Nature Preserve

HGM Function	Wetland Acres that Received Credit for Preservation
1 – Maintain Wetland Hydrology	777
2 – Removal of Dissolved Elements and Compounds	777
3 – Particulate Retention	777
4 – Habitat Structure	777
5 – Habitat Connectivity, Fragmentation, Patchiness	777
	777

Source: Analysis of the Adequacy of Wetlands and Wildlife Mitigation (HDR 2005)

The amount of preservation credit given to UDOT was based, in part, on the amount of degradation that would occur in absence of the project and establishment of the Preserve. (See Sections 2.1.3, 3.1.4, and 4.1 in Appendix E, of the Final Supplemental EIS for detailed methodology.) Without the establishment of the Preserve, most of the uplands above 4,212 ft would be developed. Wetlands in proximity to any development (within 1,000 ft) would have their functions reduced by approximately 10 percent. While preservation and the resulting exclusion of development is an important component of the mitigation, it represents only 30 percent of the total mitigation credits generated on the Preserve. Most of the mitigation credits were generated for restoration.

4. Natural fluctuations in the level of Great Salt Lake will make portions of the Preserve unavailable to wildlife when lake levels are high.

The Legacy Parkway study area is subject to natural cyclic inundation from changes in the water level of Great Salt Lake. This natural fluctuation in lake level has helped create and maintain the Great Salt Lake ecosystem such that the type and quantity of wetland and wildlife habitat available in the study area depend on the prevailing level of the lake.

Although portions of the Preserve have historically been periodically inundated, the proposed mitigation is still valuable. The primary mitigation objective for wetland and wildlife impacts associated with the Selected Alternative is to provide a large, continuous buffer between Great Salt Lake and potential future development. Land acquisition was needed to preclude development around the lake. The Final Supplemental EIS verifies that open space in Davis County is being developed at the rate of about 700 acres per year, which would lead to most of the study area being developed by 2020. While wildlife refugia are important, this rate of loss justifies acquisition of bufferlands as a greater priority than acquisition of wildlife refugia habitat.

When the lake level reaches 4,212 ft, 1,314 acres of land containing 36 percent of the wetlands in the Preserve will still be available (Table 9). (According to the FEMA 100-year floodplain mapping, 1,410 acres are available.) In areas with suitable substrate and topography, additional wetlands would be created along the new shoreline. The probability that the lake level will exceed 4,212 ft is 1.7 percent (Table 10). In addition, when the lake level reaches 4,216 ft, 600 ac of land containing 14 percent of the wetlands in the Preserve will still be available for wildlife refugia. In fact, at the request of USFWS, an additional 317 acres was added to the Preserve adjacent to the FBWMA because it was known to be an area of a major bird use when lake levels were high the 1980s.

Table 9 Wildlife Habitat (acres) Available in Preserve for Different Inundation Levels

Inundation elevation (feet)	Wildlife Habitat Remaining in Preserve (acres)
4,204	Entire Preserve is available
4,208	2,065
4,212	1,314
4,216	600

Table 10 Probability of Inundation in the Preserve by Inundation Zone

Inundation Zone	Historical Inundation[a]	Probability of Occurrence within Zone[b]
4,204 – 4,208	10.2% – 22.6%	24.0%
4,208 – 4,212	0% – 10.2%	8.3%
4,212 – 4,216	0% – 0%	1.7%

Notes:

[a] Based on historical Great Salt Lake stage data obtained from Utah State University and the USGS.

[b] Log normal probability of annual peak lake elevations. The probability of the historical data indicates the percent of time the lake elevation would be in each zone (UDNR 2000). While the historic data indicate the lake will not exceed 4,212-ft, the probabilistic accounts for the probability that the lake could reach a slightly higher elevation in the future.

Source: Analysis of the Adequacy of Wetlands and Wildlife Mitigation (HDR 2005)

While inundation would affect existing wetland functions in the Preserve, it is an important and natural process of ecosystem dynamics for the Great Salt Lake. As lake waters recede from inundated areas, nutrients and fines may be deposited, providing a rich nutrient source for wildlife and vegetation. Ecological community succession may begin anew (depending on the period and duration of inundation) providing a robust mosaic of wetlands and other habitats important to a myriad of wildlife species.

The Corps recognizes that a low probability of inundation does not necessarily equate to a low level of impact. Impacts during inundation could be severe and may lead to total loss of habitat for some species, and even local extinction of populations. Less mobile wildlife (e.g., mice, snakes, frogs, nonflying insects) will perish unless they can move to suitable habitat above the waterline. If the rise is gradual, local populations will change in size in proportion to the reduced carrying capacity of the remaining habitat. The potential for impacts on wildlife using diminishing available habitat will increase because wildlife use, such as foraging and nesting,

will be located progressively closer to the Selected Alternative alignment. However, project impacts are small compared to available habitat in the project study area. In the project study area, at high lake levels, mudflat/pickleweed habitat disappears, but substantial acreages of other habitat types will still be available. As shown in Figures 3-15 and 3-16 of the *Wildlife Impacts Analysis Technical Memorandum* (Jones & Stokes 2005), 541 acres of sedge cattail, 888 acres of hydric meadow, 2,416 acres of native scrub, and 3,371 acres of pasture will still be available at high lake levels. Additional wildlife habitat is also available in the larger regional study area (e.g., 65,938 acres of mudflat/pickleweed is available in the regional study area when lake levels are high). The wider availability of habitats makes the project and study area less important on a regional scale.

Because hundreds of acres of wildlife habitat are still available on the Preserve, and other wildlife habitats are available in the region, the Preserve can still provide effective mitigation during high water conditions.

I. PERMIT CONDITIONS

1. Conditions and Monitoring

As described in Section G above, the Selected Alternative alignment avoids and minimizes adverse environmental impacts, including impacts to wetlands, to the maximum extent practicable. Compensation for unavoidable adverse impacts is summarized in Table 5. The following permit conditions and related monitoring will be included and made part of the CWA Section 404 permit.

1. All mitigation measures described in Section G, Table 5 Mitigation Measures, are incorporated as conditions of the permit. UDOT shall provide an Environmental Oversight Manager who will ensure effective implementation of the mitigation measures and all necessary remedial actions.

2. All terms and conditions of the December 5, 2000, Section 401 Water Quality Certification are incorporated as conditions of the permit.

3. To mitigate the loss of 103 ac of wetlands and indirect effects on 575 ac of wetlands, UDOT will implement mitigation as described in Appendix F of the Final Supplemental EIS, Mitigation Plan for the Legacy Nature Preserve, (Draft October 2005). This would include the implementation of the Adaptive Management Plan (UDOT& SWCA 2005). The draft Mitigation Plan will be revised to include the following:

- Quantitative success criteria, with proposed survey methods, used to monitor characteristic vegetation and hydrology and measure success.
- The minimum acreage of wetland-wildlife habitat that needs to be maintained in good condition is shown in Table 11. (Using wetland-wildlife habitat acreage rather than the acreage from the 2000 wetland delineation map will allow the inclusion of riparian areas along the Jordan River and updated 2004 habitat mapping.)
- Relative cover of noxious/invasive weeds in each plant community shall not exceed 20%

Table 11 Habitat Success Criteria for Preserve

	Habitat (acres) Success Criteria by Management Area				
	Riverine	Evaporative Basins	Alkali Flats	Wet Meadow	Farmington Bay
Wetland Complex/Riparian Habitats	63	193	137 +12	138	363

Note:

Wetland complex/riparian wildlife habitat is not synonymous with "jurisdictional wetlands" as defined in Section 4.12, *Wetlands*, of the Final Supplemental EIS. Wetland complex/riparian wildlife habitat includes jurisdictional areas as well as non-jurisdictional riparian areas and other mesic habitats. This difference is discussed in greater detail in Appendix B of the *Legacy Parkway Wildlife Impacts Analysis Technical Memorandum* (Jones & Stokes 2005).

- Detailed construction, implementation, and monitoring methods for the creation of 12 acres of slope wetlands. Details will include, but not be limited to, specific locations with plan and cross section drawings, target vegetation and hydrology, site preparation and construction techniques, irrigation/water delivery system descriptions, quantifiable success criteria, monitoring methods, documentation and schedule, and maintenance activities. The Corps recommends that sufficient wetland hydrology be demonstrated prior to any planting or seeding, if planting or seeding is proposed.
- Clarification of the roles, responsibilities, membership and relationship of the Preserve Manger, Preserve Management Team, Science Advisory Committee, Collaborative Design Team, and the Legacy Nature Preserve 501(c)(3) Board of Directors.
- Reporting Requirements will include a description and location map of restoration tasks/measures completed and restoration measures remaining. The mitigation will not be deemed successful until all restoration mitigation tasks have been completed.
- Reporting Requirements will include annual monitoring until the success criteria for each management area are met. This period will commence upon completion of the creation/construction of 12 acres of wetlands. Additionally, continued success of the mitigation wetlands, with routine maintenance, must be demonstrated for three consecutive years, once the success criteria have been met. The time period to achieve success may be different for each management area. The revised Mitigation Plan must be approved by the Corps prior to initiation of construction activities.

4. Construction of 12 acres of slope wetlands must be completed in advance of the construction of the Parkway, unless protection measures for the bald eagle or acquisition of water rights require delay. In no case will initiation of the construction of compensatory mitigation be delayed beyond October 2006. Construction of compensatory mitigation will be completed no later than March 2007. If modifications are made to the original construction plan/design for the Preserve, as built drawings of the completed work will be provided to the Corps no later than 60 days after the completion of construction of the mitigation wetlands.

5. UDOT will record deed restrictions maintaining the Legacy Nature Preserve as wetland and wildlife habitat in perpetuity. Deed restrictions will be recorded once all properties are obtained under a single legal description. A copy of the proposed deed restriction language shall be provided to the Corps for approval within 90 days of UDOT obtaining title to all properties comprising the Legacy Nature Preserve, prior to recordation.

6. Uses and activities needed for wildlife habitat management, maintenance, or research are allowed on the Preserve, provided they are consistent with the long-term management goals described in the Adaptive Management Plan (UDOT 2005).

- The construction of administrative, maintenance, research facilities and associated parking areas shall be minimized to the maximum extent. The facilities shall not compromise the integrity of the Preserve's wetland habitat and function, or wildlife behavior or population size
- The planning of facilities for public access and education shall occur in collaboration with resource agencies, neighboring education centers, the Collaborative Design Team, the Preserve Management Team, and when established, the Legacy Nature Preserve 501(c)(3) Board of Directors.
- The facilities cannot compromise the integrity of the Preserve's wetland habitat and function, or wildlife behavior or population size.
- The direct and indirect impact to wetland wildlife habitat needs to be minimized to the maximum extent practical. Locating these facilities outside of the Preserve, including at the 121-ac 500 South Property, must be given preference and evaluated as a suitable, least damaging alternative.
- The Corps must approve the location and type of amenities for the public facilities prior to construction.

7. To ensure the long-term viability of the Preserve, UDOT will continue to maintain and monitor the Preserve until the following has occurred.

- A fully funded endowment has been established to provide for long-term maintenance, as described in the Legacy Nature Preserve Adaptive Management Plan (UDOT& SWCA 2005).
- Permanent conservation easement(s) shall be recorded maintaining the Legacy Nature Preserve as wetland and wildlife habitat in perpetuity. An appropriate conservation-oriented third party entity (entities) has been designated to hold the conservation easement and administer the endowment funding long-term maintenance needs. Copy of the proposed conservation easement language shall be provided to the Corps for approval prior to recordation.

2. Compliance

Compliance with the above-detailed permit conditions will be demonstrated and monitored as follows.

8. UDOT will submit an annual report documenting success in implementing Section G, Table 5 Mitigation Measures. UDOT can provide an aerial photograph identifying the type and location of the constructed conveyance structures to demonstrate installation of floodplain and surface water mitigation measures. The location of floodplains, wetlands and streamzones should also be placed on the map. UDOT can also provide the final parkway design to demonstrate the width of the berms have been reduced.

9. UDOT will submit wetland mitigation monitoring reports to the Corps by December 1 of each year for a minimum of 5 years. Monitoring and reporting will continue to until success has been achieved and maintained for 3 consecutive years for each management area. It is acknowledged that some management areas may reach success earlier than others.

J. COMMENTS ON THE FINAL SUPPLEMENTAL EIS

1. Comments and Responses

Notice of the final Supplemental EIS was published in the Federal Register on November 10, 2005. The lead agencies provided a 32-day public comment period that ended on December 12, 2005. The final Supplemental EIS was distributed to federal, state, regional, and local agencies, as well as some members of the public. In addition, copies were available to the general public in local libraries and the document was available online at the Corps and UDOT websites.

During the public review period on the final Supplemental EIS, the lead agencies received approximately 77 comments. The administrative record includes review of all comments received during the comment period.

One federal agency comment was received on the final Supplemental EIS. In a letter dated December 12, 2005, EPA acknowledged receipt of the final Supplemental EIS and stated that it understood that the least environmentally damaging practicable alternative (LEDPA) would be identified in the Clean Water Act 404(b)(1) compliance documentation included the Corps' ROD for the project. EPA agreed that appropriate practicability considerations, including logistics, were made in the evaluation of the D&RG Corridor for the project. Further, EPA recommended that details of the November 14, 2005 Settlement Agreement be included in the ROD. The Corps forwarded the Clean Water Act 404(b)(1) compliance documentation to EPA on December 14, 2005. Details of the Settlement Agreement are included in Section F, Settlement Agreement, of this ROD.

FHWA contacted the Department of the Interior and USFWS Utah Field Office on January 5, 2006 to confirm that no comments were provided.

The vast majority of the public comments were regarding noise issues in the areas of the Charnell and Birnam Woods subdivisions in West Bountiful. That issue is addressed briefly below. In addition, two clarifications are noted below. Other than the noise issues, the remaining 12 comments were general and primarily were requests for documents and/or maps and have already been addressed.

Comment:

Approximately 62 commenters described noise-related issues pertaining to the neighborhoods of Charnell and Birnam Woods in West Bountiful. The following related comments are addressed individually below.

a) Comments that noise receptors used in the noise analysis were located farther from the proposed alignment than the Charnell subdivision and that therefore additional studies are necessary to determine noise impacts in the Charnell area.

b) Questions about the criteria used to determine whether noise abatement needed to be considered.

c) Requests that a berm be included in the Charnell/Birnam Woods area and that it be 9-ft high in that area to help buffer noise and address safety issues.

Response:

The lead agencies have conducted a thorough noise analysis to determine impacts of the proposed Legacy Parkway on receptors near the alignment. The Charnell and Birnam Woods subdivisions in West Bountiful were considered in the noise analysis, and noise impacts in those areas have been estimated. The following responses refer to the issues itemized above.

a) To determine existing noise conditions for a noise analysis, locations for noise monitors are selected to be representative of land uses in an area. Noise monitors ML-9 and ML-10 (see Figure 4.9-3 in the final Supplemental EIS) were selected to represent noise cc .ditions for the Charnell and Birnam Woods subdivisions. Although the noise monitoring sites were not located specifically within the subdivisions, the proximity of the monitoring location to the subdivisions means that noise levels recorded at those locations are representative of noise levels that would likely be experienced in the subdivisions themselves. To determine project-related noise levels, the roadway network was modeled, the location of individual residences within the development were coded into the computer model, and noise levels were estimated at those receptor locations. Based on this information, estimated noise levels at Charnell would be between 66 to 69 decibels (dBA), and estimated noise levels at Birnam Woods would be between 68 to 73 dBA.

b) Existing UDOT Noise Abatement Criteria for residential areas is 65 dBA (UDOT 08A2-1, April 2000). UDOT's Noise Abatement Criteria is the controlling policy for the Legacy Parkway project. Noise levels in both Charnell and Birnam Woods would exceed 65 dBA. UDOT considered noise abatement for the Charnell subdivision. Sound wall modeling results showed that even with a 30-foot high sound wall the barrier would not reduce noise levels by at least 5 dBA (the minimum noise reduction required by the UDOT Noise Abatement Policy). Therefore, a sound barrier was not proposed for the Charnell subdivision. A sound wall was not proposed for the Birnam Woods subdivision, because it was platted after the original ROD for the Legacy Parkway was completed (October 2000). According to UDOT's Noise Abatement Policy in effect at the time, the development would not be eligible for state-sponsored noise abatement measures, Because the development was platted after the ROD for the project was issued, abatement measures for the Birnam Woods subdivision would be the responsibility of the property developer.

c) As stated in the final Supplemental EIS, the berm proposed for the Legacy Parkway project extends along the east side between 500 South and Porter Lane in West Bountiful, and along the west side between Glovers Lane and State Street in Farmington. The Charnell/Birnam Woods area is north of Porter Lane and outside the area where the berm is proposed.

2. Clarifications

Policy Paper Clarification for FHWA ROD

A point of clarification should be noted regarding the FHWA Section 4(f) Policy Paper referenced in Chapter 5, *Section 4(f) and 6(f) Evaluation*, of the Final Supplemental EIS. After circulation of the Final Supplemental EIS, it was noted that the Final Supplemental EIS cites the 2005 version of the Policy Paper, but the language referenced is from the 1989 version. The intent of the 2005 Policy Paper is the same as that of the 1989 Policy Paper, but the 2005 version provides updated guidance on when and how to apply the provisions of Section 4(f) on FHWA projects that propose to use 4(f) land or resources.

This was an oversight and the language should have been updated from the 2004 Draft Supplemental EIS to reflect the 2005 Policy Paper. We have determined that the language on page 5-11 of the Final Supplemental EIS should be corrected as follows. (Strikethrough indicates deleted text; underscore indicates new text.)

> Section 4(f) applies to historic properties (those on or eligible for the National Register of Historic Places) located on these multiple-use land holdings and *only to those portions of the lands which are designated by statute or identified in the*

management plans of the administering agency as being primarily for park, recreation, or wildlife or waterfowl refuge purposes and which are determined to be significant for such purposes.

For public land holdings which do not have management plans (or where existing management plans are out-of-date) Section 4(f) applies to those areas that are publicly owned and function primarily for *Section 4(f) purposes. Section 4(f) does not apply to areas of multiple-use lands which function primarily for purposes other than park, recreation or refuges such as for those areas that are used for timber sales or mineral extraction in National Forests* (Italics added for emphasis.)

Figure 4.9-3 in Final Supplemental EIS

Figure 4.9-3 in Section 4.9, Noise, of the final Supplemental EIS incorrectly depicts the earth berm continuing north of Porter Lane. As described on page 2.1-16 of the final Supplemental EIS, the berm is only proposed between 500 South and Porter Lane on the east side of Legacy Parkway and between Glovers Lane and State Street on the west side of the parkway.

K. PUBLIC INTEREST DETERMINATION

The decision whether to issue a permit includes an evaluation of the proposed impacts of the proposed activity, including cumulative impacts, and its intended use on the public interest (33 CFR 320.4[b][4]). The public interest evaluation balances the benefits expected from the proposed action against reasonably foreseeable detriments. A permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The relative extent of the private and public need for the work is great. As explained in the Final Supplemental EIS, Chapter 1 *Purpose and Need for Action*, the Parkway is needed to meet existing and projected travel demand through 2020 in the North Corridor. During the northbound, evening commute, I-15 currently operates at a peak-hour Level of Service E, below acceptable conditions according to standards set by the American Association of State Highway Transportation Officials. It only meets LOS D, the minimum acceptable conditions, in the 3-hour peak period by a small margin. By 2020, without the project, I-15 would operate at level a Level of Service F, failure conditions characterized by extreme congestion and stop-and-go traffic.

Reasonably foreseeable detriments are described in the Final Supplemental EIS and in Section D *Summary of Major Environmental Impacts* of this document, including impacts to wetland and wildlife habitat. After careful consideration, the Corps concludes these adverse impacts do not outweigh benefit of the Parkway to the traveling public. Therefore, issuance of a Department of the Army Permit with mitigation measures and special conditions listed in Sections G *Mitigation Measures and I Permit Conditions,* is not contrary to the public interest

L. CONCLUSION

The Department of the Army Permit Application Number 200350493 submitted by UDOT for the construction, operation, and maintenance of Legacy Parkway has been reviewed and evaluated in accordance with regulations published in 33 CFR 320–330 and 40 CFR 230. T

In developing this project, the Corps has considered probable impacts of the proposed activity, including cumulative impacts, and all the issues raised in the record and has consulted with other

federal and state agencies, including FHWA, USFWS, EPA, FTA, UDNR, and UDEQ, as well as local jurisdictions in the study area. The Selected Alternative was developed through a public process that included public outreach meetings, community planning and information committee meetings, and a comprehensive public comment and response process. Mitigation for unavoidable resource impacts will be incorporated into the project design, employed during construction, or implemented off-site. The Legacy Nature Preserve will compensate for the loss of wetland and wildlife habitat and will provide permanent protection for Great Salt Lake wetland and wildlife ecosystems.

The issuance of a permit modification authorizing the Utah Department of Transportation to construct the Legacy Parkway Selected Alternative and its attendant facilities as described in the Final Supplemental EIS, and subject to the conditions described above is not contrary to the public interest and complies with the 404(b)(1) Guidelines.

APPROVED BY : Ronald N. Light 18 Jan 2006

Ronald N. Light Date

Colonel, U.S. Army District Engineer

REVIEWED BY: _____

Michael Mahoney Date

Chief, Con-Ops Division

10 JAN 06

Andrew Rosenau Date

Chief, Regulatory Branch

17 Jan 06

for Carl Korman Date

Office of Counsel

1/10/06

Brooks Carter Date

Regional Policy Analyst

_____

Shawn Zinszer Date

Chief, Intermountain Section

PREPARED BY:

_____

Nancy Kang Date

Regulatory Project Manager